

Maine Collection

6-1981

Preliminary Critical Area Survey of the Appalachian Trail in Maine

Critical Areas Program (Maine)

Follow this and additional works at: https://digitalcommons.usm.maine.edu/me_collection

 Part of the [Environmental Policy Commons](#), [Forest Biology Commons](#), [Forest Management Commons](#), [Other Forestry and Forest Sciences Commons](#), and the [Physical and Environmental Geography Commons](#)

Recommended Citation

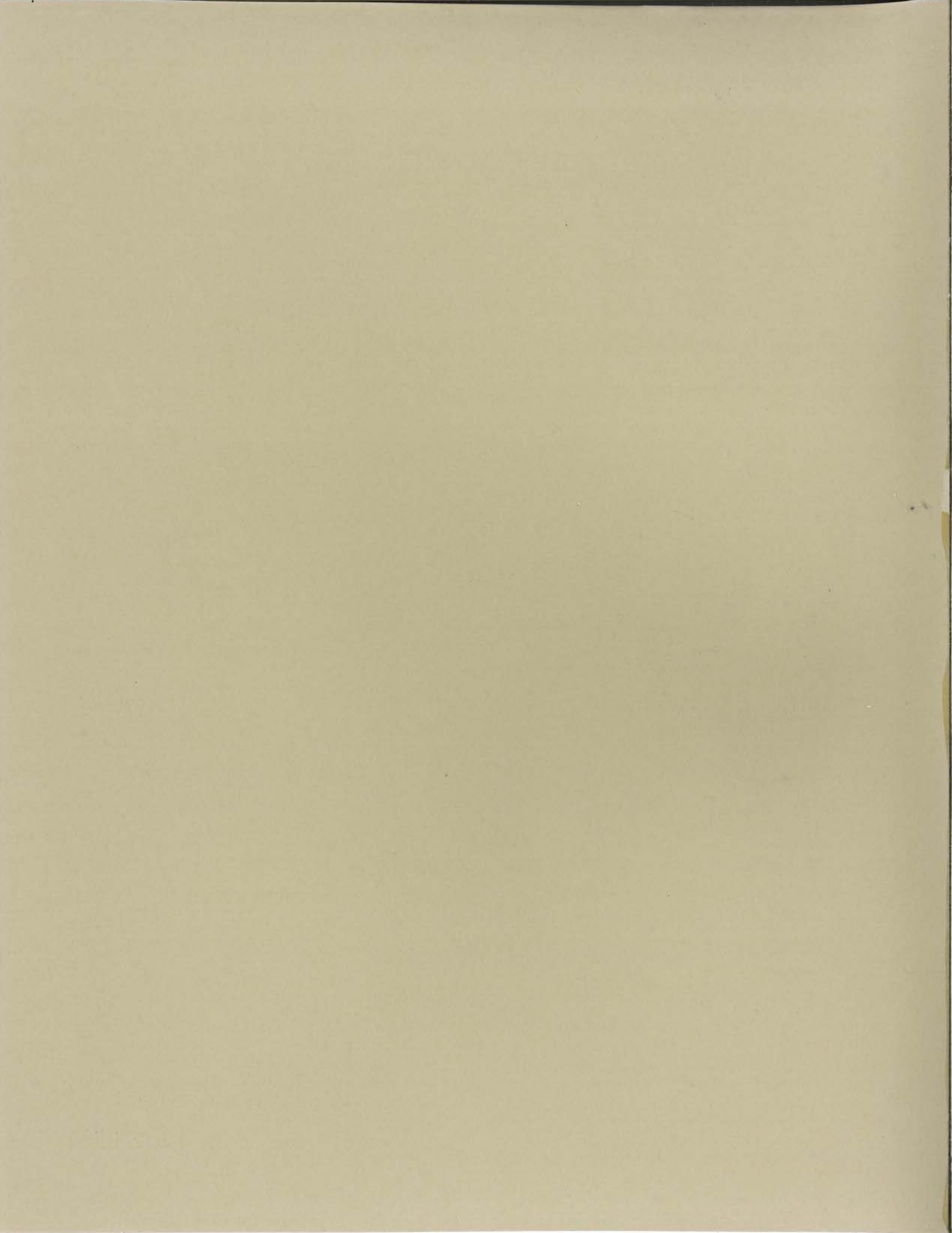
Critical Areas Program (Maine), "Preliminary Critical Area Survey of the Appalachian Trail in Maine" (1981). *Maine Collection*. 26.
https://digitalcommons.usm.maine.edu/me_collection/26

This Book is brought to you for free and open access by USM Digital Commons. It has been accepted for inclusion in Maine Collection by an authorized administrator of USM Digital Commons. For more information, please contact jessica.c.hovey@maine.edu.

A Critical Area Survey of the Appalachian Trail in Maine

Executive Department

Maine State Planning Office
June 1981



PRELIMINARY CRITICAL AREA SURVEY
of the
APPALACHIAN TRAIL
in
MAINE



Critical Areas Program
Natural Resource Planning Division
Maine State Planning Office

June 1981



State of Maine
Executive Department
State Planning Office
State House Station 38

184 State Street, Augusta, Maine, 04333

JOSEPH E. BRENNAN
GOVERNOR

TEL. (207) 289-3261
RESOURCES PLANNING: 289-3155

ALLEN G. PEASE
STATE PLANNING DIRECTOR

June 1, 1981

Chris Brown
Department of the Interior
National Park Service
Harpers Ferry Center
Harpers Ferry, WV 25425

Dear Chris:

The Maine Critical Areas Program has reviewed the critical area and natural area data base for significant natural features along the Appalachian Trail in Maine, as well as meeting with Dave Field and Jym St. Pierre to review the locations of unusual natural features. Please find attached the compiled inventory of significant natural features along the Maine Appalachian Trail system.

This inventory shows that the Appalachian Trail system contains a large number of very significant natural features ranging from alpine vegetation, old growth trees, rare plants, waterfalls and gorges. Four areas are designated National Landmarks, and 12 areas are registered critical areas, and another 8 areas are under consideration for critical area status. One plant species (Paronychia argyrocoma var. albimontana) is a proposed threatened species by the Office of Endangered Species.

The fact that the State of Maine will own and be responsible for its management, presents a special management situation because of the comparative hearing, visitation and utilization of the trail system. While the land is "protected" by state ownership, the hearing utilization of the trail system may pose a threat to the fragile nature of the alpine environment.

Identification of critical areas and ecologically sensitive areas is imperative for the proper management of these alpine areas in a manner to insure the perpetuation of these unusual features. We are fortunate that the Maine Critical Areas Program has been collecting information on critical areas since 1974. However, there are areas along the Trail that have not been surveyed by a botanist or geologist to identify and describe natural features. A follow-up to this office inventory should be a field inventory of the portions of the Trail that we know little about.

Page 2
June 9, 1981

The Critical Areas Program is willing to assist in further natural resource inventory work of the Appalachian Trail in Maine.

Sincerely,

Harry R. Tyler, Jr.
Critical Areas Program Manager

HRT/j

cc: Richard Barringer, Director
R. Alec Giffen
Herb Hartman
Lloyd Irland
Tom Deans
Dave Field
Jym St. Pierre

Table of Contents

	<u>Page</u>
Summary of the Critical and Natural Areas Programs	4
U.S.G.S. Quadrangles - showing Appalachian Trail and	11
Critical Areas/Natural Areas	11
Register of Critical Areas	
Mount Katahdin Arctic Alpine Plant Community and Rare Plant Areas .	32
Little Niagara Falls	41
Big Niagara Falls	44
Nesowadnehunk Falls	47
Nesuntabunt Old Growth Spruce	51
Gulf Hagas	55
Hermitage Old Growth White Pine	59
West Chairback Pond Falls	62
Little Wilson Falls and Gorge	65
Stratton Brook Esker Segment.	68
Bigelow Mountain Arctic-Alpine Area	72
Saddleback Mountain Arctic-Alpine Area	75
Dunns Falls	78
Elephant Mountain Old Growth Forest	81
Baldpate Mountain Arctic-Alpine Area.	85
Goose Eye Mountain Arctic-Alpine Area	88
Critical Area Planning Reports Cited	91

A Summary of the Critical and Natural Areas
along the Appalachian Trail in Maine.
(Arranged north-east to south-west)

Prepared by the Maine Critical Areas Program
June 1981

<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
1. Alpine vegetation Mount Katahdin	T 3 R 9	Piscataquis	Maine's highest mountain (5267 ft.) The largest extent of alpine-tundra vegetation. The alpine habitat for at least 42 rare plant species. 25 rare plant species are found in Maine only on Mt. Katahdin. The habitat for the Katahdin Butterfly <u>Oeneis polixenes</u> <u>Katahdin</u> . Large cirque and mountain cliffs. A National Natural Landmark.	Planning Report on Alpine-Tundra Vegetation #36 and Katahdin Butterfly #35 - draft Register for Mount Katahdin
2. Little Niagara Waterfall	T 3 R 10	Piscataquis	A series of waterfalls Two waterfalls dropping 6 feet and 12 feet.	Draft Register for Little Niagara Falls
3. Big Niagara Waterfalls	T 3 R 10	Piscataquis	Four sets of falls dropping a total of 70 feet.	Planning Report on Waterfalls #60 - Draft Register for Big Niagara Falls
4. Indian Pitch	T 3 R 10	Piscataquis	A small waterfall	

<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
5. Nesowadnehunk Falls	T 2 R 10	Piscataquis	A large waterfall on the West Branch of the Penobscot River. Six to 8 feet drop over granite bedrock. One of the best landlocked salmon fishing areas in the States.	Planning Report on Waterfalls #60 - Register for Nesowadnehunk Falls
6. Rainbow Lake	T2 R 11	Piscataquis	A large, 1664 acre, and deep 130', lake that is the habitat for the Blue-back Trout, <u>Salvelinus aquassanum</u> which occurs in only 8 lakes in Maine.	Maine Inland Fisheries & Wildlife species management plan for Blue-back Trout
7. Natural Spring, Rainbow Lake	T2 R 11	Piscataquis	One of two major, natural springs along the Appalachian Trail in Maine.	Dave Field
8. Pollywog Gorge	T 1 R 11	Piscataquis	A flume gorge 200 yards long, and with upward to 200 feet deep.	Dave Field
9. Nesuntabunt Mountain Old growth forest	T 1 R 11	Piscataquis	An Old growth forest of red spruce (140 years old), hemlock (350 years old) and white pine (140 years old).	Planning Report on Old Growth Forest - draft Register for Nesuntabunt Mountain
10. Nahmakanta Lake scenic overview	T1 R 11	Piscataquis	Exposed rock cliffs with scenic overview of Nahmakanta Lake.	Dave Field
11. Red Pine Stand	T-A R 10	Piscataquis	A young growth, even age stand of red pine.	Dave Field

<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
12. Cooper Brook Falls	T-A R 11	Piscataquis	A large cascade at 450 dropping 35 feet that cascades into a 100 foot long pool.	Dave Field
13. White Cap Mountain scenic view	T 7 R 10	Piscataquis	Exposed summit with excellent views.	Dave Field
14. Gulf Hags	T 7 R 10	Piscataquis	A large gorge through slate with several waterfalls (5 km long and 45 meters deep. A National Natural Landmark.	Planning Report on Gorges #64 - Register # 281
15. The Hermitge	T 7 R 10	Piscataquis	An Old growth white pine stand. Owned by The Nature Conservancy. A National Natural Landmark.	Planning Report on White Pine #61 - Register # 243
16. East Chairback Pond	T 7 R 9	Piscataquis	A scenic high elevation (1500 feet), undeveloped pond.	
17. West Chairback Pond	T 7 R 9	Piscataquis	A scenic high elevation (1700 feet), undeveloped pond.	
18. West Chairback Pond Falls	T 7 R 9	Piscataquis	A high elevated waterfall, flowing out of West Chairback Pond.	Planning Report on Waterfalls #60 - Register # 328
19. Barren Slide	Elliotsville	Piscataquis	Extensive rock slide and talus slope on the western end of Barren Mountain.	Dave Field

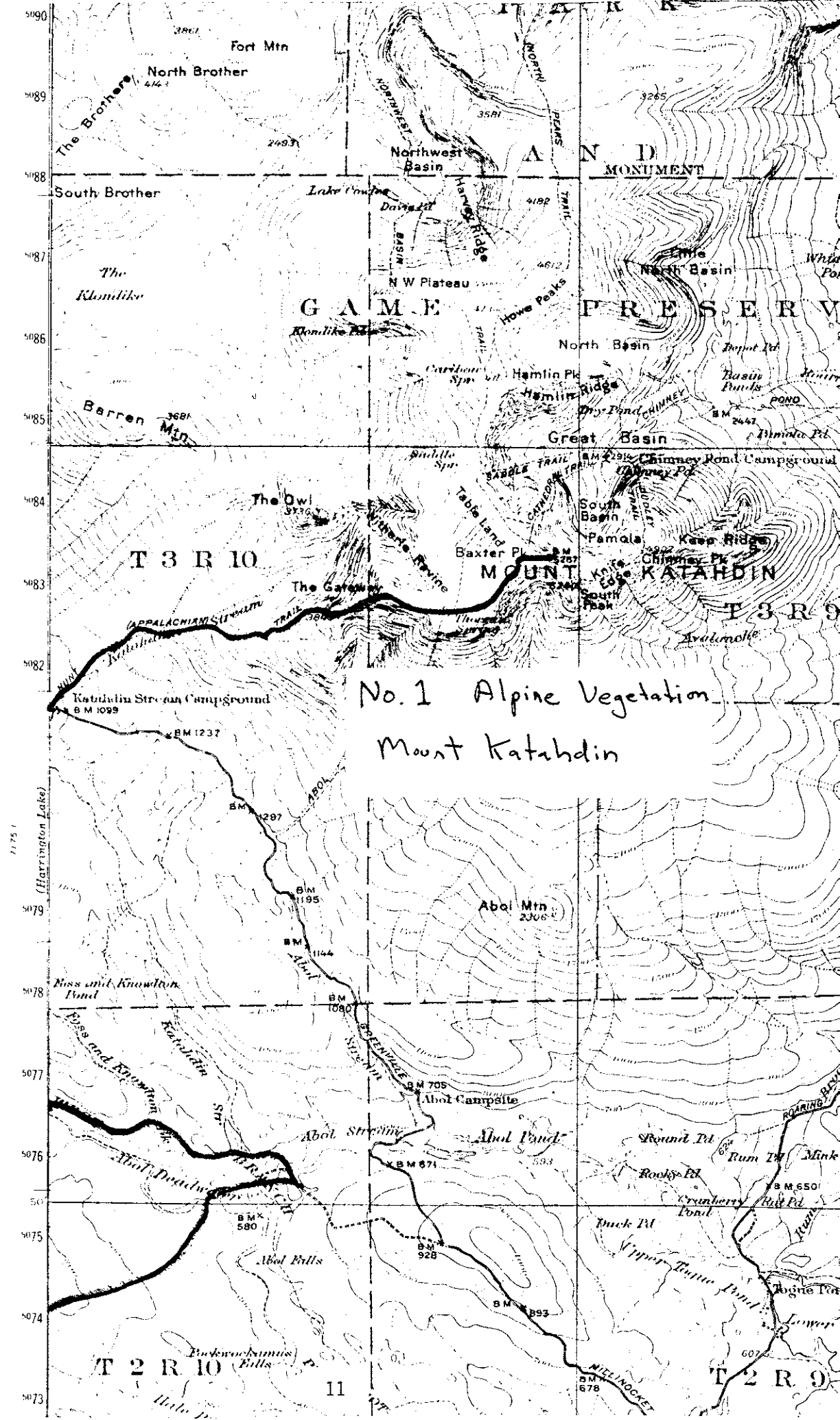
<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
20. Slugundy Falls and Gorge	Elliottsville	Piscataquis	A 10 feet deep, 20 foot wide cascade followed by a series of cascades and pools extending for 100 yards through Monson Slate.	Dave Field
21. Little Wilson Gorge	Elliottsville	Piscataquis	A 1/4 mile long gorge through 75' to 100' high slate ledges.	Planning Report on Waterfalls #60 - Register # 227
22. Little Wilson Falls	Elliottsville	Piscataquis	40' high waterfall cascading down vertically on bedded slate ledges.	Planning Report on Waterfalls #60 - Register # 227
23. West Branch of Piscataquis River & Gorge	Blanchard	Piscataquis	A spectacular series of gorges extending for 1 mile through the Monson Slate formation. The south side of one gorge has cliffs 60 feet high. Several small waterfalls. A modest size esker that rises to a height of 75 feet.	Dave Field
24. Esker	T 3 R 3 (Dead River)	Somerset		Planning Report on Eskers #67
25. Bigelow Mountain	T 3 R 3 T 4 R 3 (Wyman)	Franklin	Bigelow Mountain Range 3 mile long. Alpine vegetation. Peaks reach 4150' and 3831'. Exposed ridge with outstanding scenic views. A National Natural Landmark.	Planning Report on Alpine Vegetation #36 - Register #45
26. Stratton Brook Esker	T 4 R 3	Franklin	The trail crosses on undisturbed section of a long esker segment that reaches a height of 75 feet.	Planning Report on Eskers #67 Register # 310

<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
27. Sugarloaf Mountain Ravine	T 4 R 2 T 4 R 1	Franklin	Ravine and rock slide on the southern side of Sugarloaf Mountain.	Dave Field
28. Orbeton Stream Gorge	Redington	Franklin	A 20 foot wide, 20 feet deep gorge, 40 foot bridal-veil waterfall on Sluce-Hill Brook at intersection with Orbeton at foot of gorge.	Dave Field
29. Saddleback Mountain Alpine Vegetation	Redington - Madrid	Franklin	A 3 mile exposed rock ridge above timberline. Arctic-tundra vegetation. Extensive glacial polishing of rocks.	Planning Report on Alpine Tundra vegetation #36 Register # 126
30. Piazza Rock & Boulder Caves	Sandy River	Franklin	A long slated rock projecting from the south side of ridge near Saddleback Mountain. Extensive boulder cave on the northwest side of the mountain.	Dave Field
31. Withan Bog	Rangleley	Franklin	A boreal bog of sphagnum moss surrounded with black spruce.	Dave Field
32. Bemis Ridge	T D	Franklin	Extensive exposed ledges in area badly burned in 1930's. Outstanding views of Rangeley lakes.	Dave Field
33. Elephant Mountain Old growth forest	T D	Franklin	A virgin old growth forest of red spruce. 23" d.b.h. 300 years old. Glacial Boulder Field	Planning Report on Old growth forest #61 - Draft Register for Elephant Mtn.

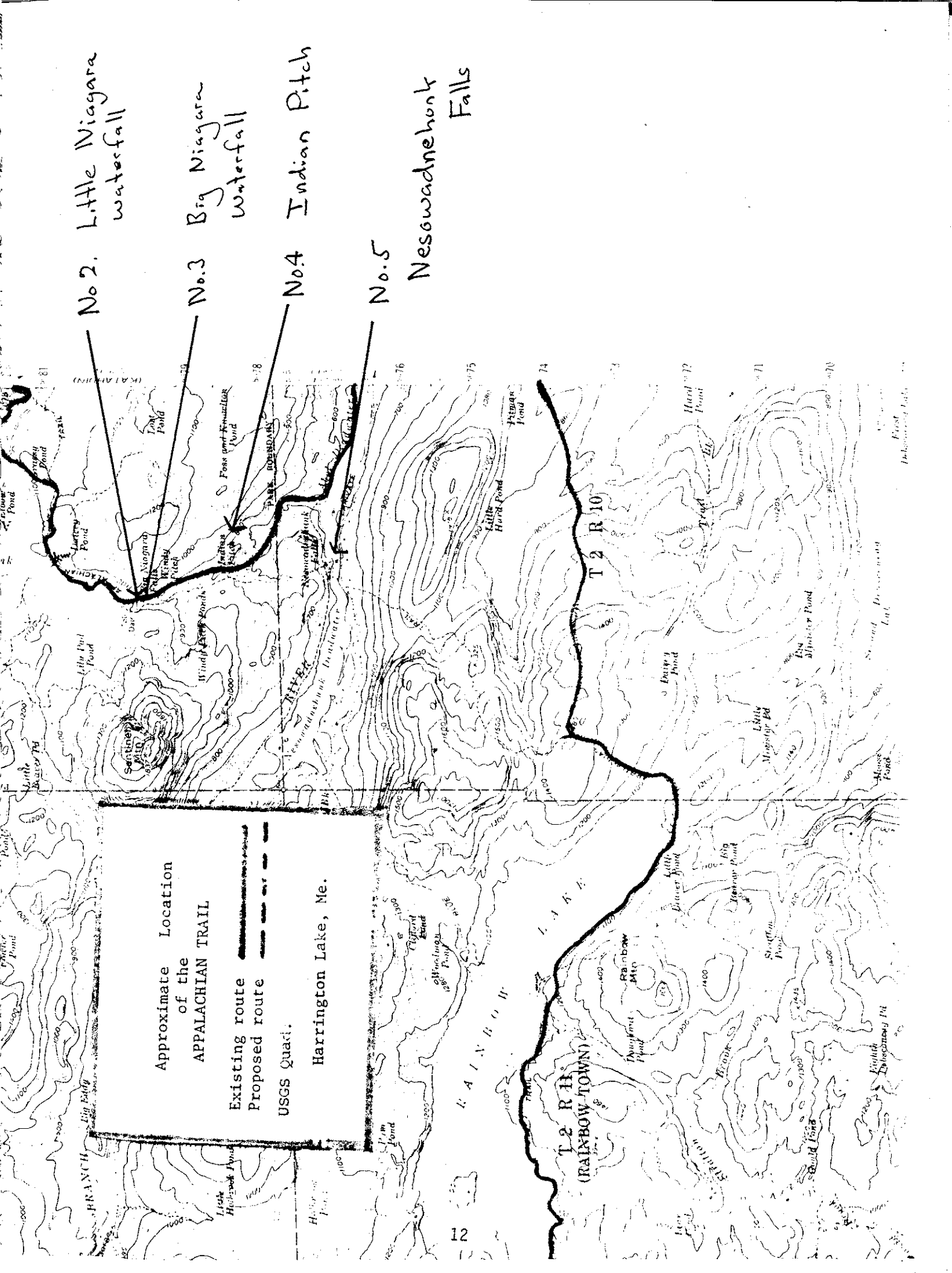
<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
34. Old Blue Mountain	T D	Franklin	3600 scenic view	Dave Field
35. Dunn Notch Waterfall	Andover North Surplus	Oxford	A spectacular waterfall consisting of three drops 60 feet, 4 feet and 85 feet. Rare fern - Fragrant Cliff-fern (<i>Dryopteris fragrans</i>) reported on <u>300' feet cliffs</u> on north side of fall.	Planning Report on Waterfalls #60 - Register # 322
36. Little Baldpate Mountain	Grafton	Oxford	A series of rock ledges running for 1/2 mile. Several small caves in the cliff. A small amount of alpine-tundra vegetation, 3 rare plant species.	Planning Report on Alpine-Tundra vegetation #36 - Register #113
37. The Eyebrow	Grafton	Oxford	Reported site of the Silverling, <i>Paronychia argyrocoma</i> var. <u>albimontana</u> a proposed <u>federally threatened</u> plant species.	L. M. Eastman - 10/27/80 Federal Register pages 70949 - to 70952
38. Speck Pond	Grafton	Oxford	Maine's highest tarn (alpine pond) at an elevation of 3670 feet.	
39. Mahoosuc Notch	Riley	Oxford	A scenic notch with steep sides in the Mahoosuc Mountain range. Extensive boulders and boulder field at the base of the notch.	

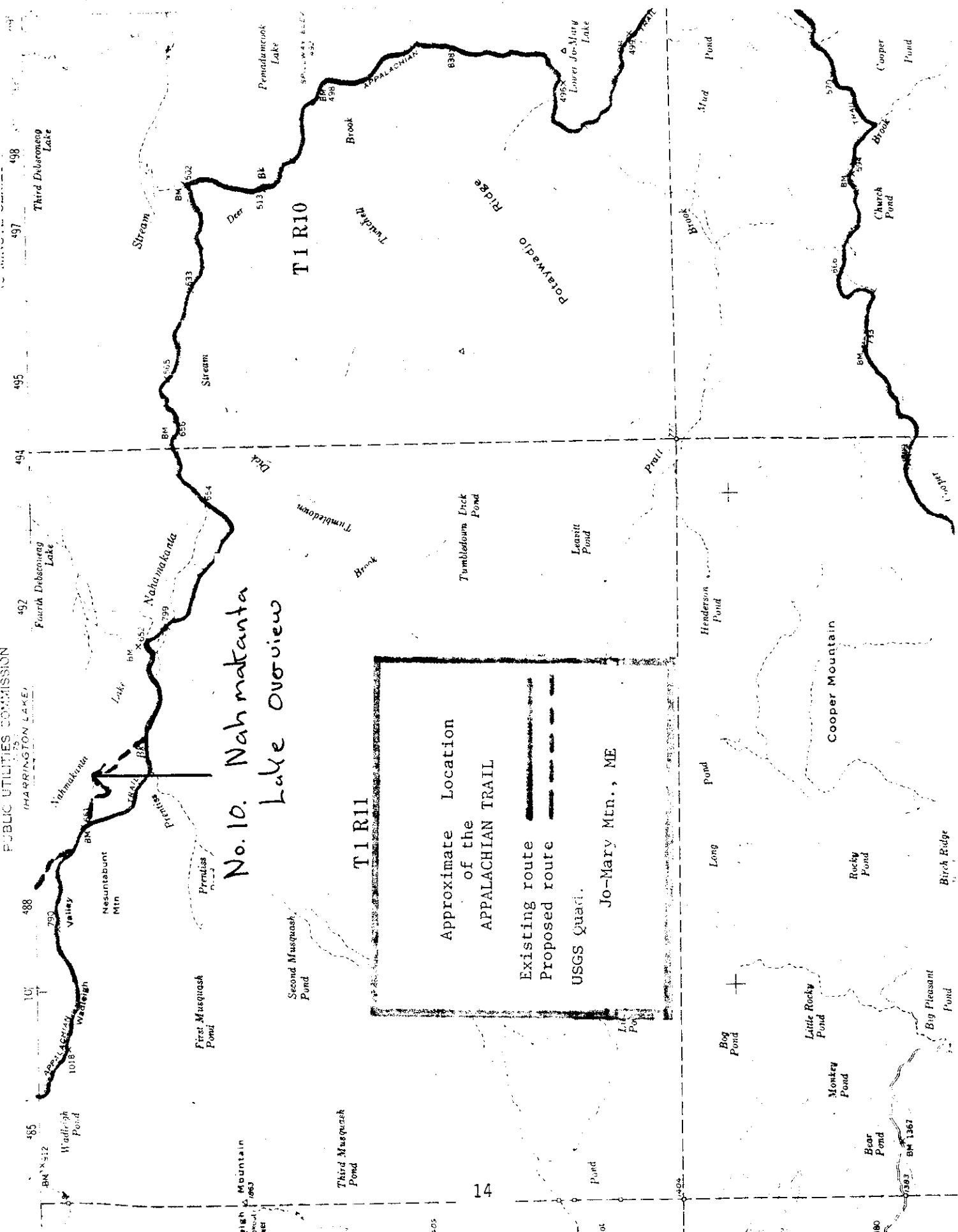
<u>Name of Feature</u>	<u>Town</u>	<u>County</u>	<u>Description</u>	<u>References</u>
40. Goose Eye Mountain Alpine vegetation	Riley	Oxford	Alpine vegetation on the northern slope of Goose Eye Mountain. The alpine bog is the site's greatest natural attraction. Eight rare plant species.	Planning Report on Alpine-Tundra vegetation #36 - Register # 114
41. Carlo Col	Riley	Oxford	One of four true cols in New England.	Jym St. Pierre

1550B



No. 1 Alpine Vegetation
Mount Katahdin





No. 10. Nahmakanta Lake Overview

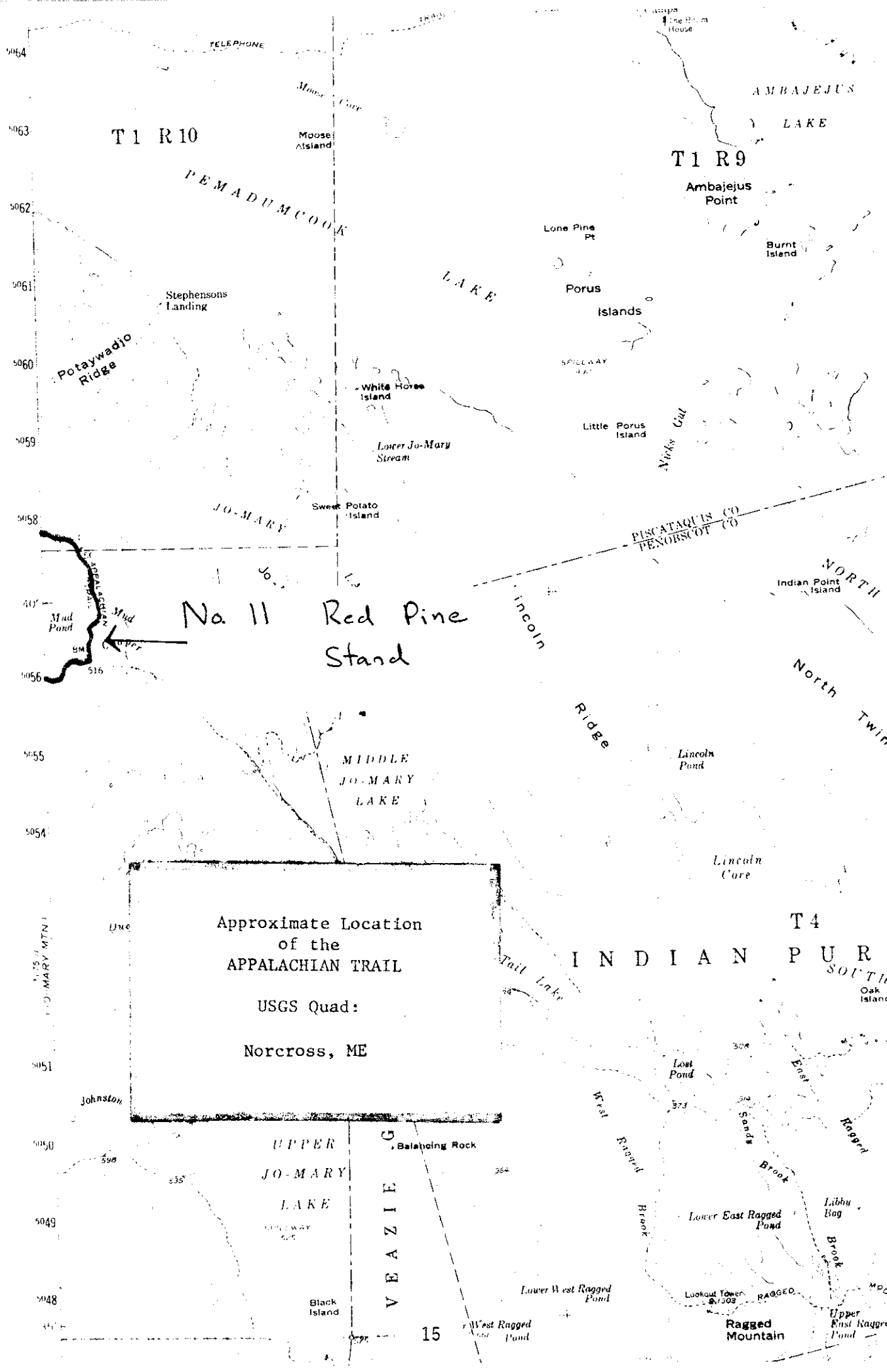
T1 R11

Approximate Location
of the
APPALACHIAN TRAIL

Existing route
Proposed route

USGS Quad.

Jo-Mary Mtn., ME



T1 R10

T1 R9

PEMADUMCOOK

Ambajejus Point

Stephensons Landing

Potaywadio Ridge

White Horse Island

Lower Jo-Mary Stream

Sweet Potato Island

JO-MARY

PISCATAQUIS CO
PENOBSCOT CO

No. 11 Red Pine Stand

MIDDLE
JO-MARY
LAKE

Approximate Location
of the
APPALACHIAN TRAIL

USGS Quad:

Norcross, ME

T4
INDIAN PUR

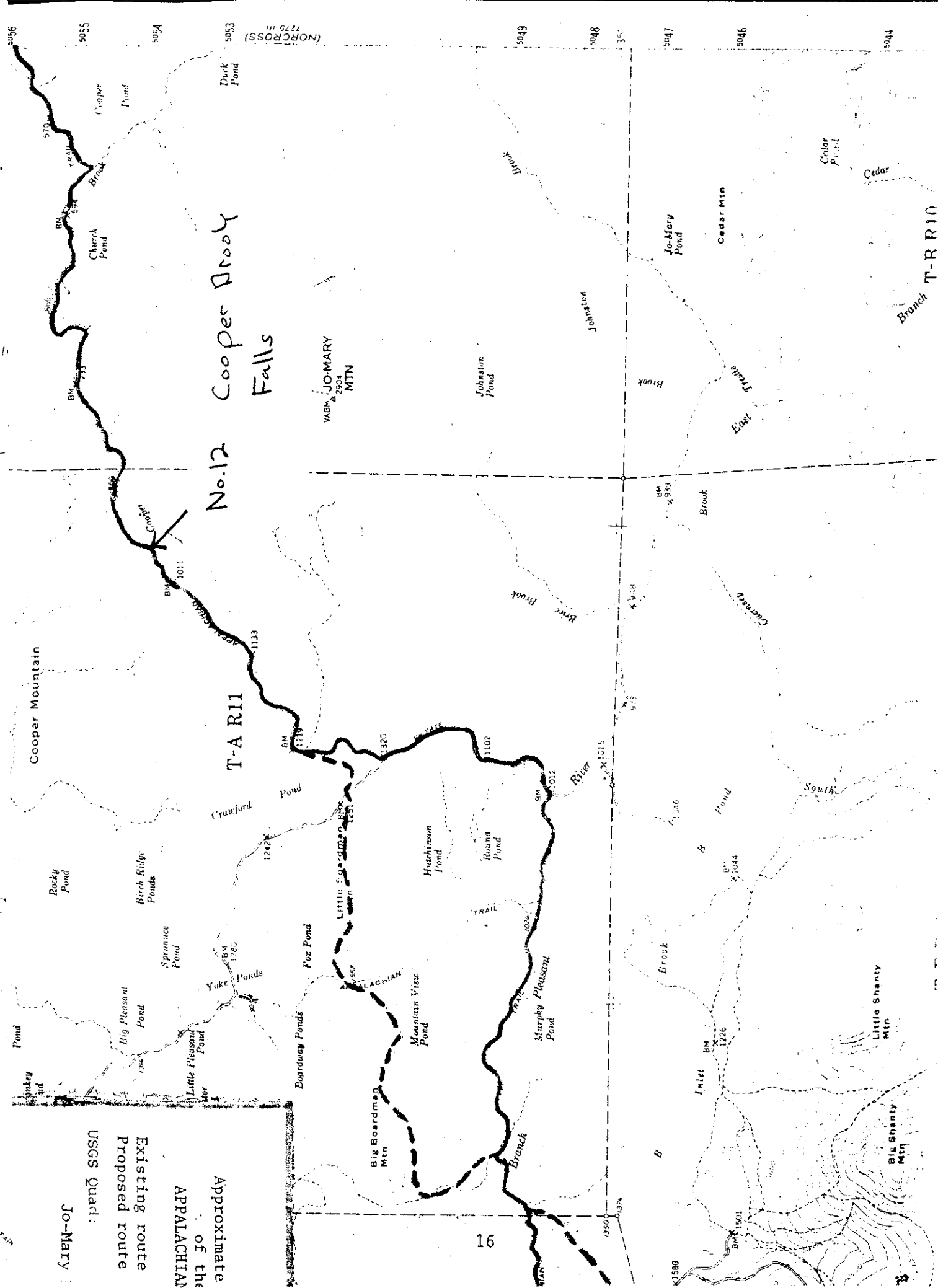
UPPER
JO-MARY
LAKE

VEAZIE

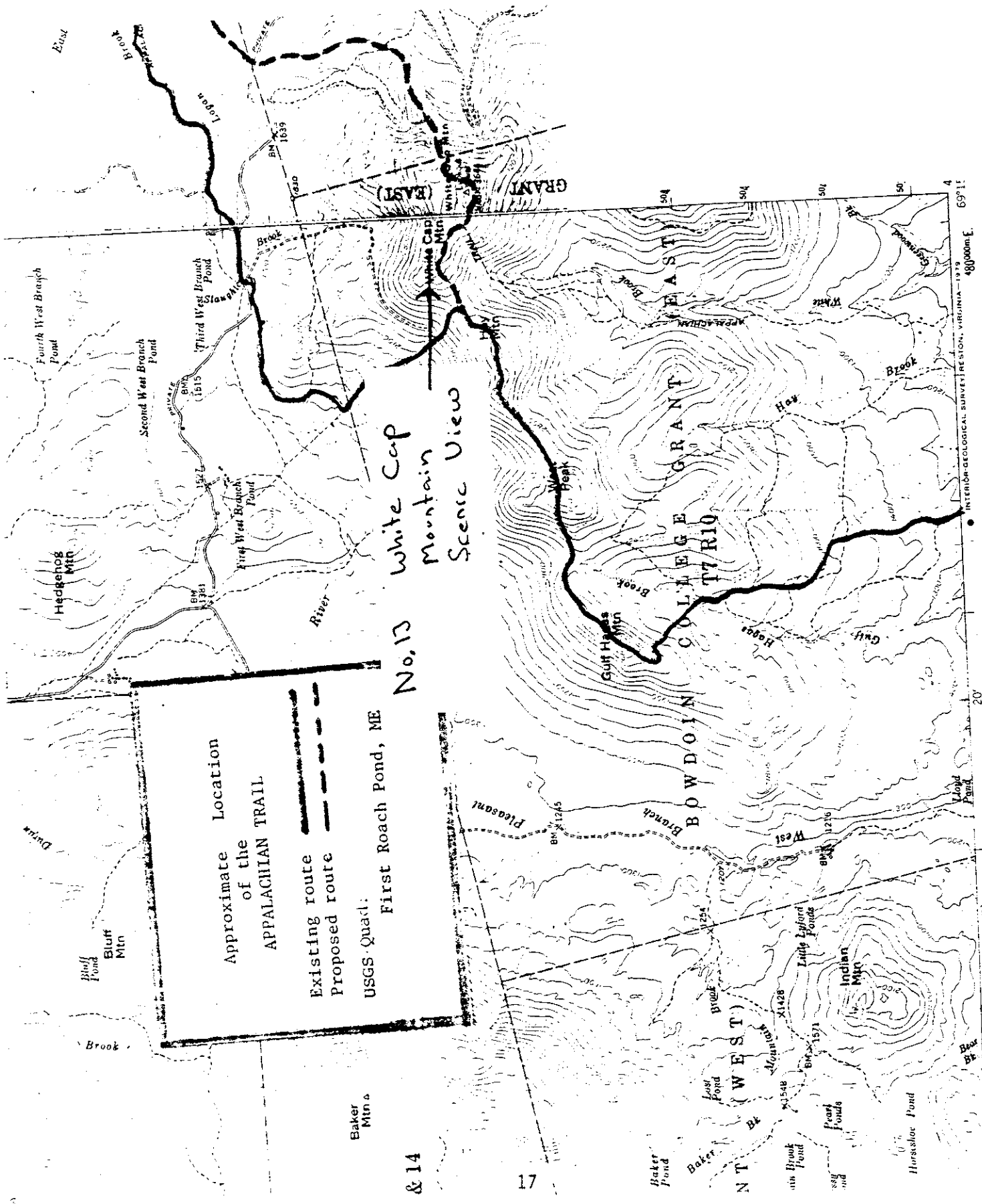
Black Island

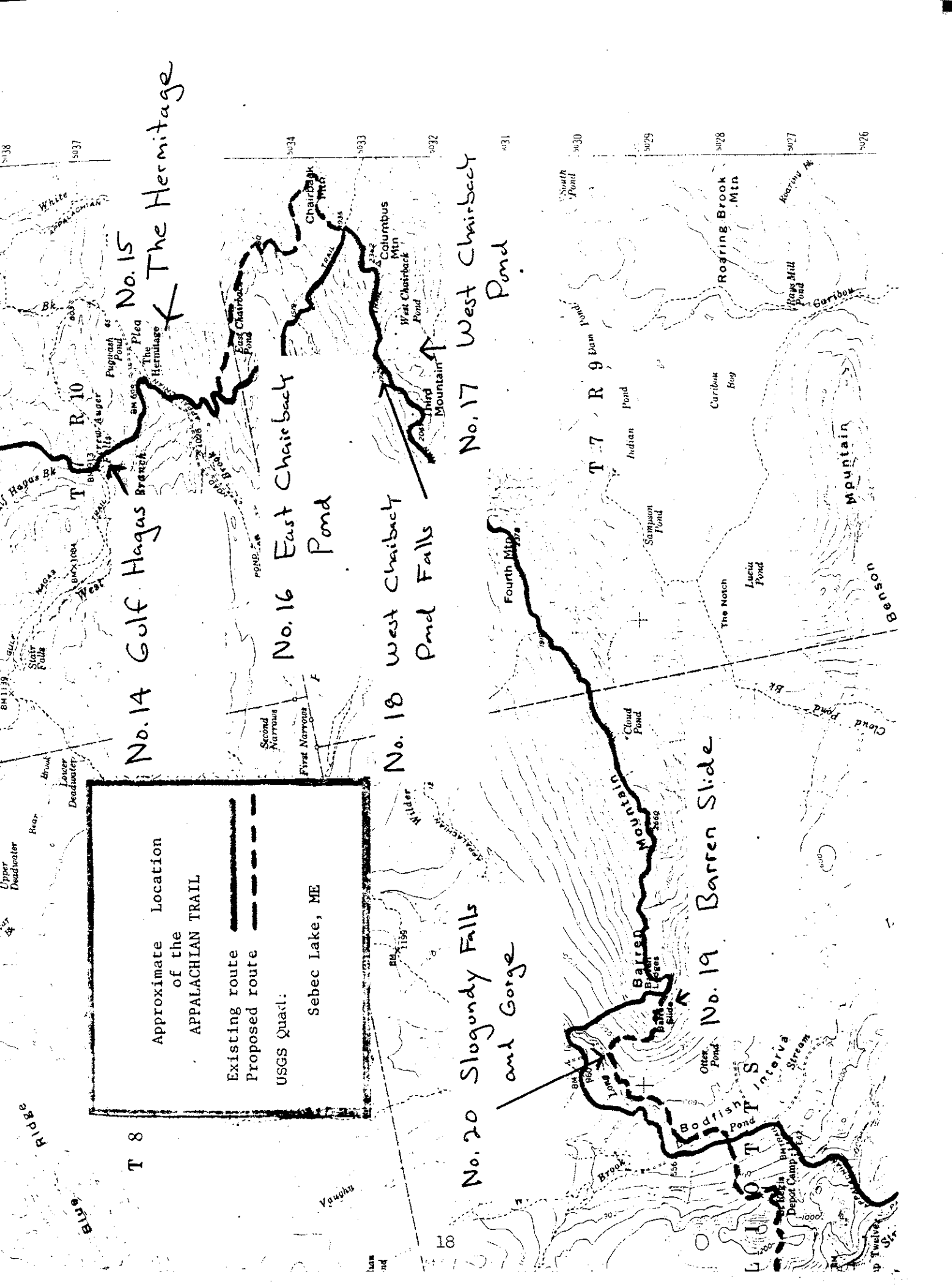
15

Ragged Mountain



Approximate
of the
APPALACHIAN
Existing route
Proposed route
USGS Quad:
Jo-Mary





No. 14 Golf Hagas Branch
No. 15 The Hermitage

No. 16 East Chairback Pond
No. 17 West Chairback Pond

No. 18 west Chairback Pond Falls

No. 20 Slogundy Falls and Gorge

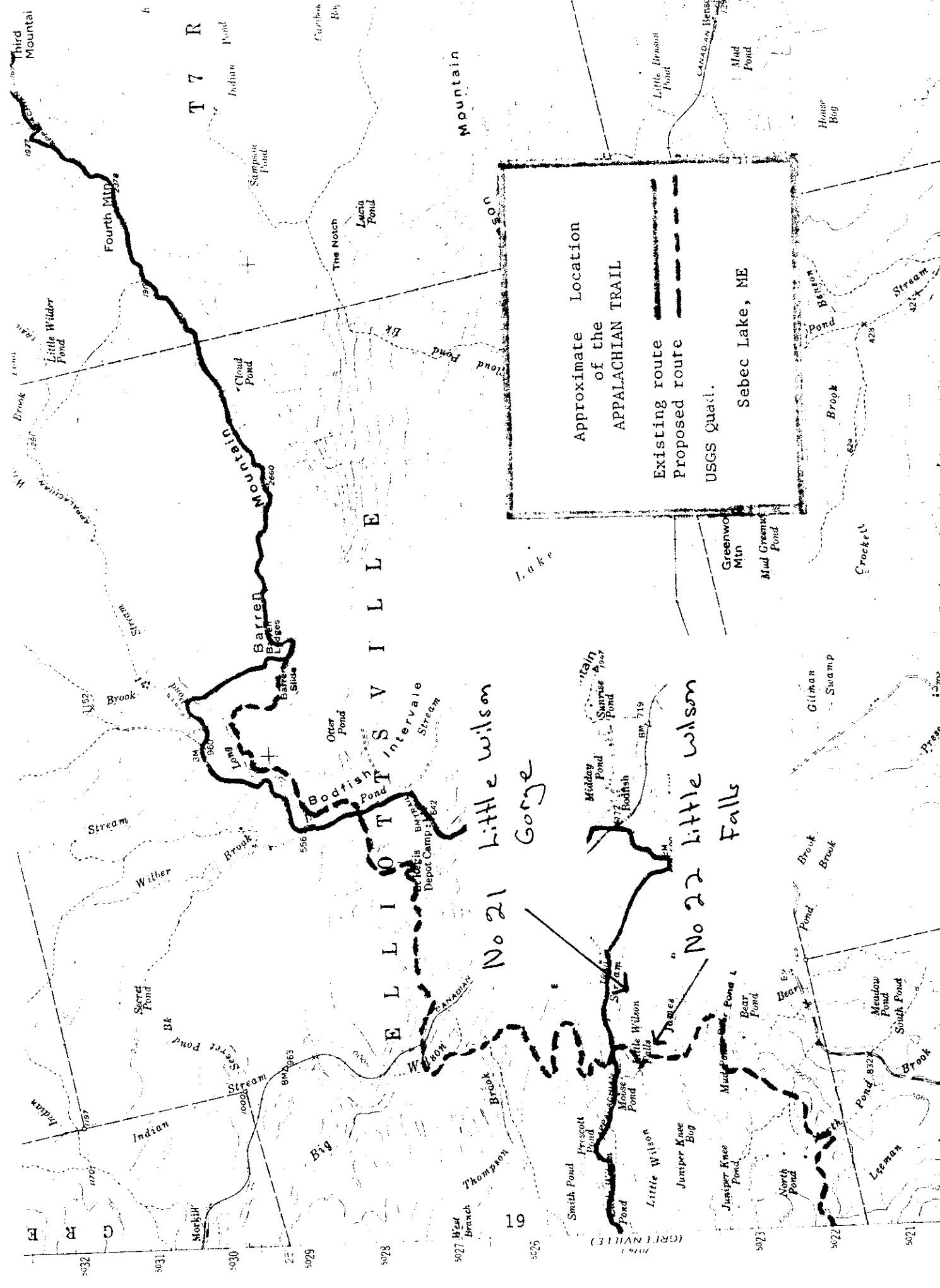
No. 19 Barren Slide

Approximate Location of the APPALACHIAN TRAIL

Existing route

Proposed route

USGS Quad: Sebec Lake, ME



Approximate Location
of the
APPALACHIAN TRAIL

Existing route
Proposed route

USGS Quad.

Sebec Lake, ME

No 21 Little Wilson
Gorge

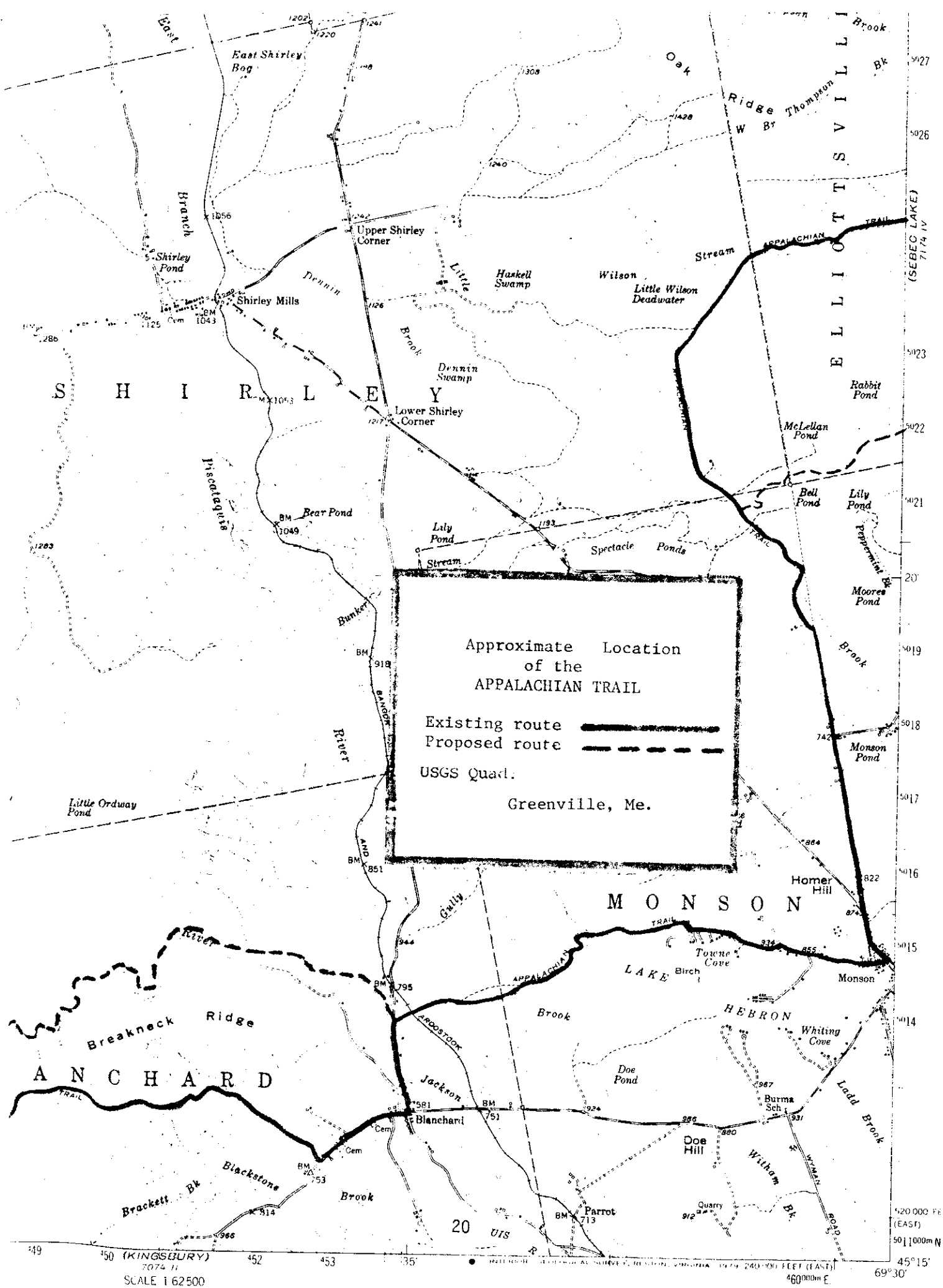
No 22 Little Wilson
Falls

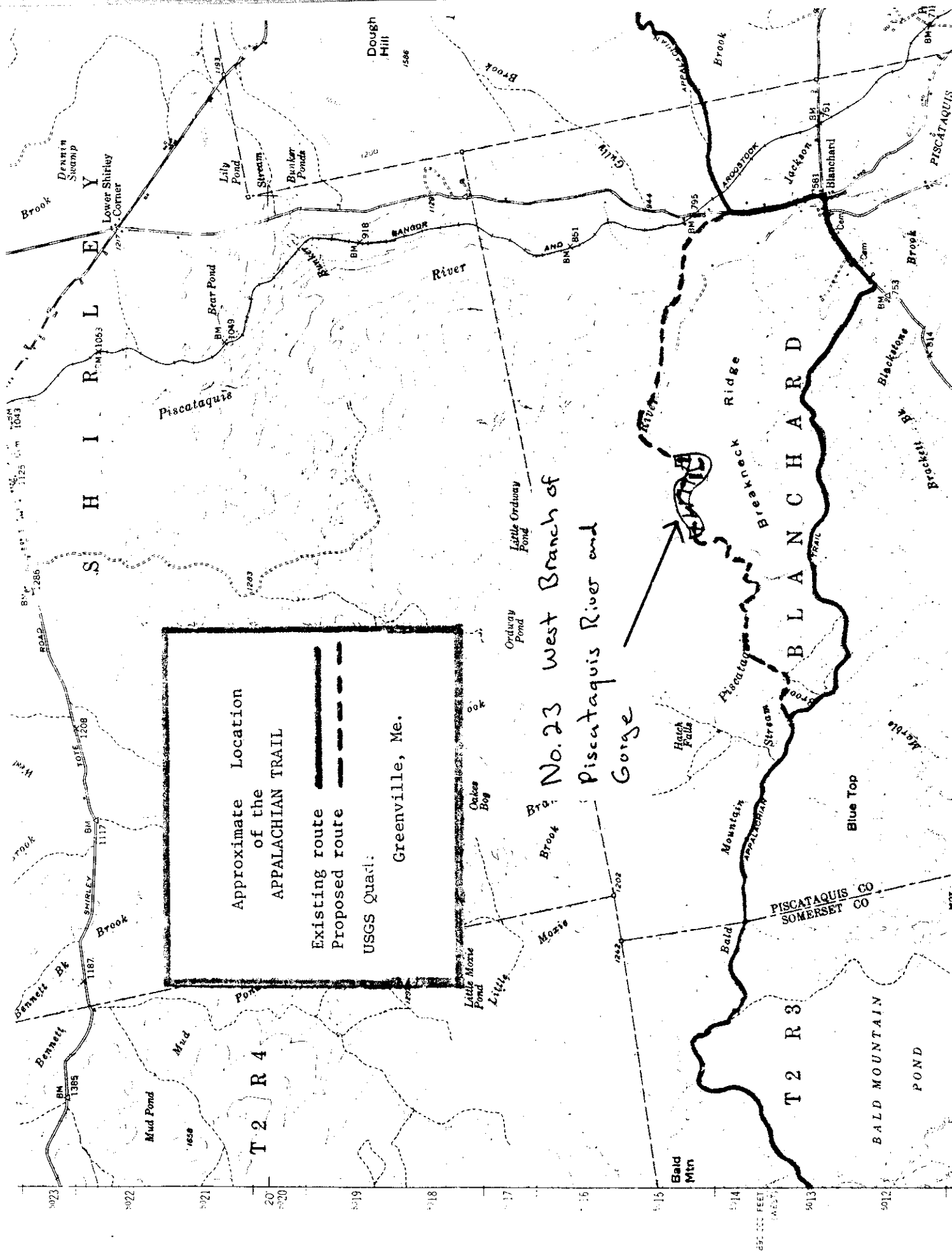
E L L I O T S V I L L E

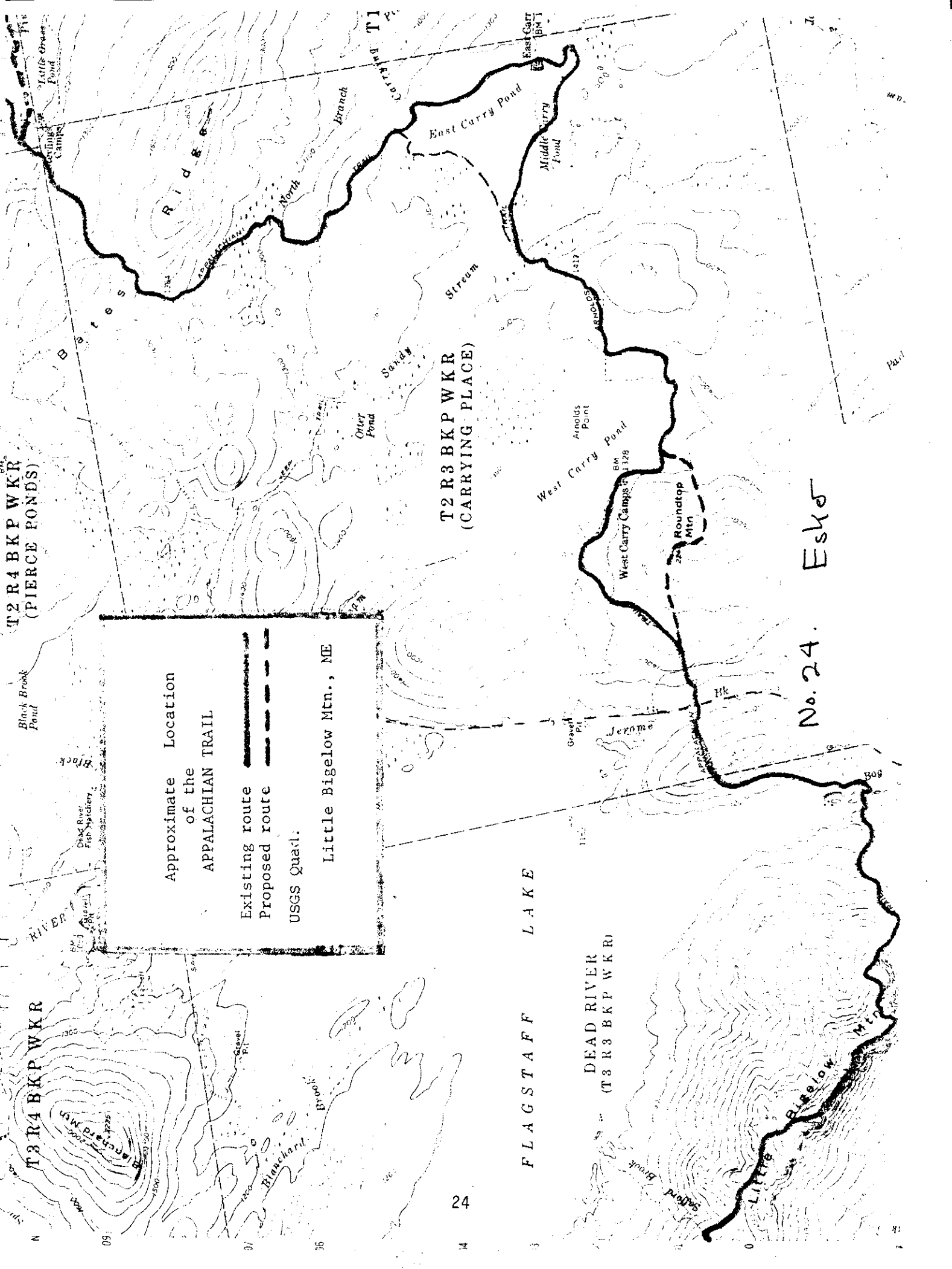
T 7 R

E R G

19







T2 R4 BKP WKR
(PIERCE PONDS)

T3 R4 BKP WKR

T2 R3 BKP WKR
(CARRYING PLACE)

DEAD RIVER
(T3 R3 BKP WKR)

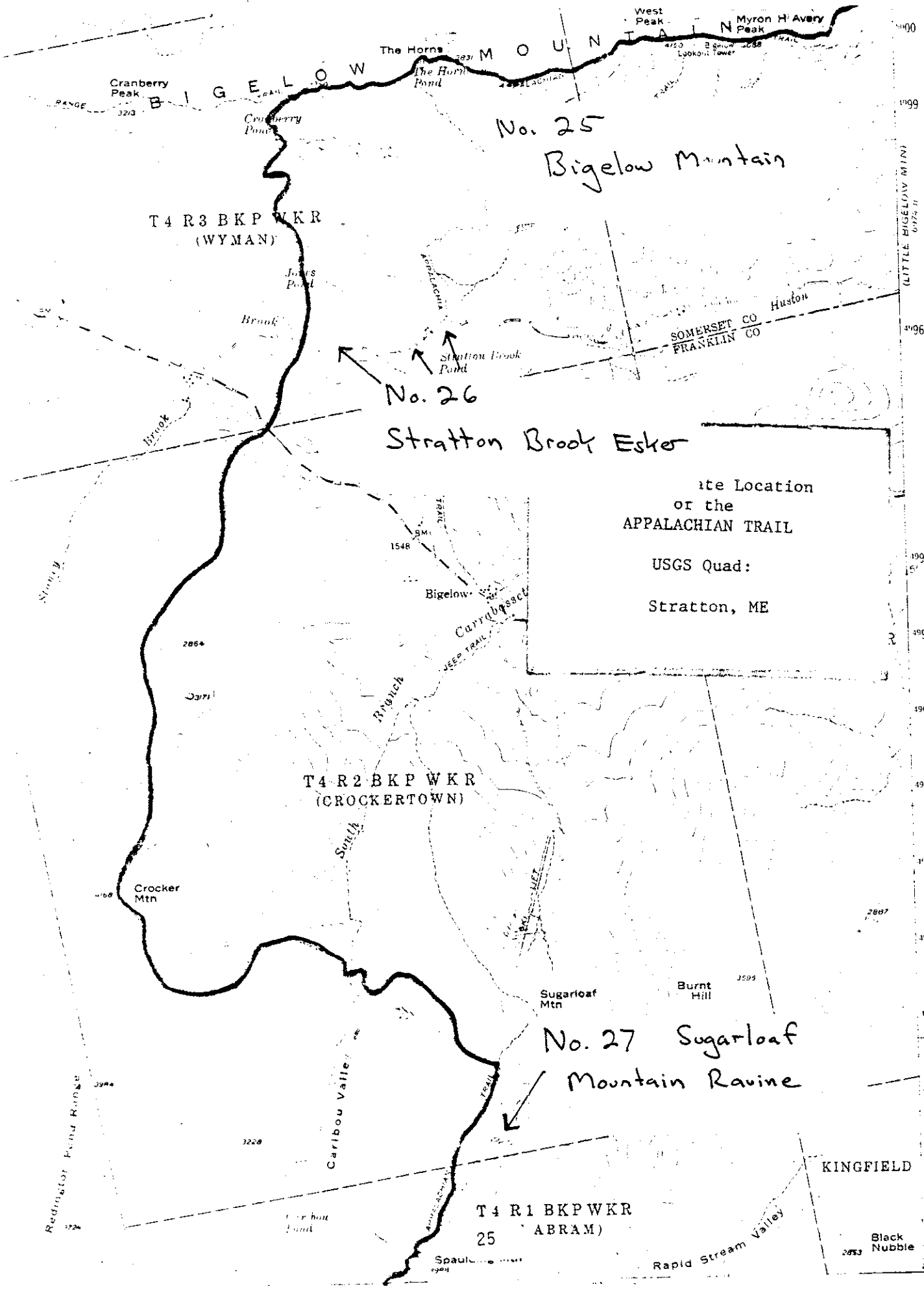
No. 24. Esk

Approximate Location
of the
APPALACHIAN TRAIL

Existing route
Proposed route

USGS Quad:

Little Bigelow Mtn., NE



No. 25
Bigelow Mountain

No. 26
Stratton Brook Esker

ite Location
or the
APPALACHIAN TRAIL

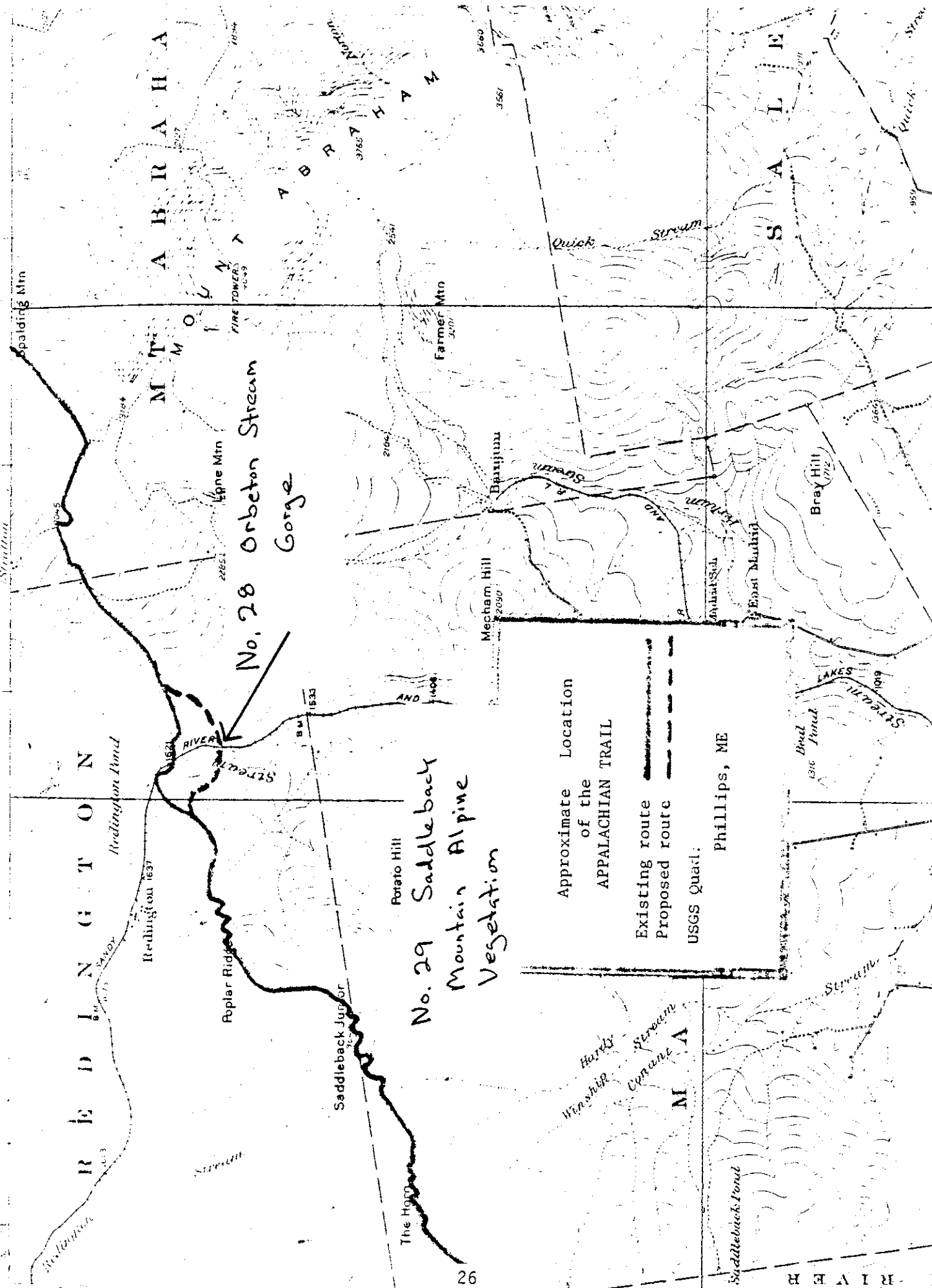
USGS Quad:
Stratton, ME

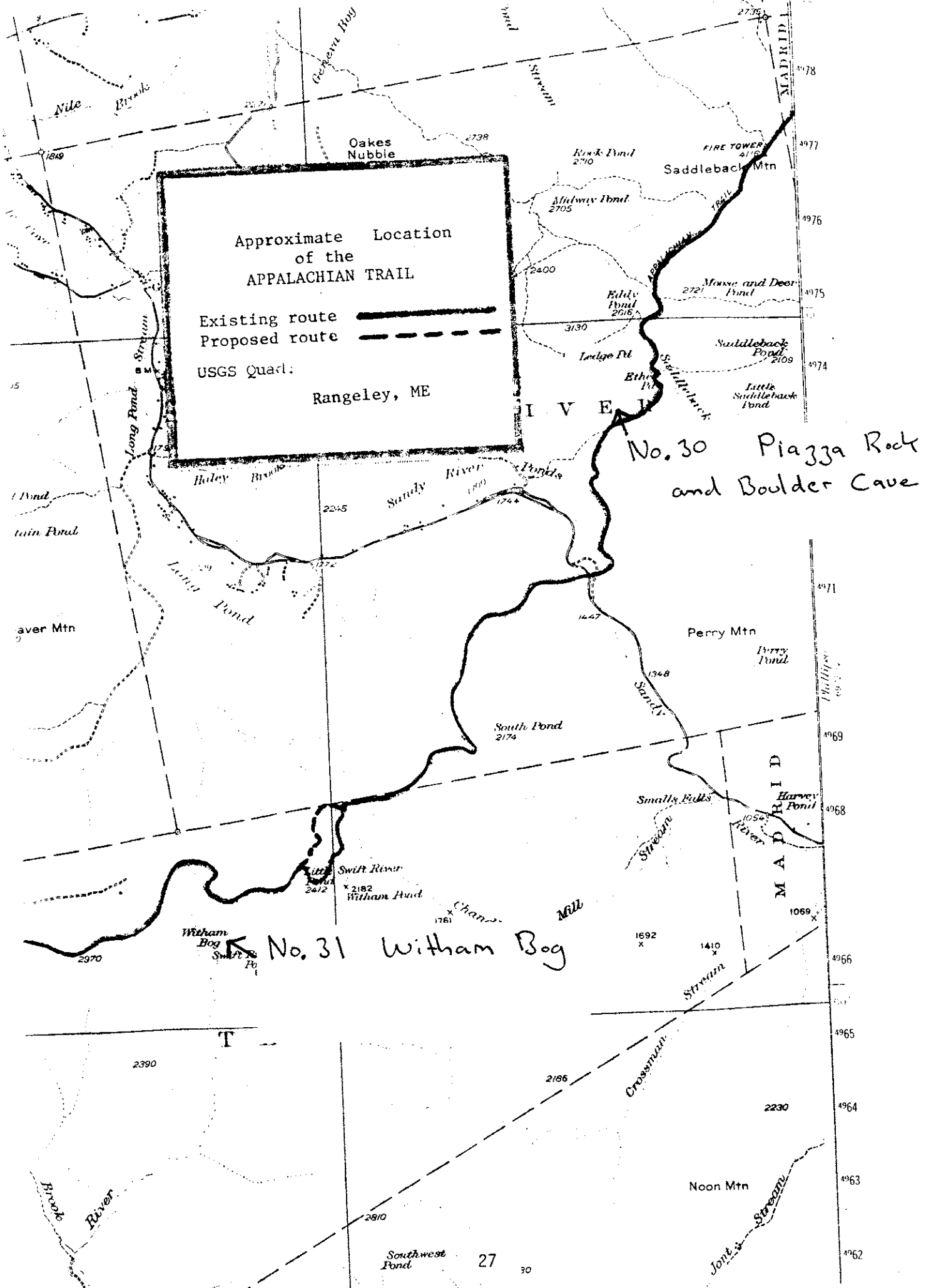
No. 27 Sugarloaf
Mountain Ravine

KINGFIELD

T4 R1 BKP WKR
25 ABRAM)

Black
Nubble





Approximate Location
of the
APPALACHIAN TRAIL

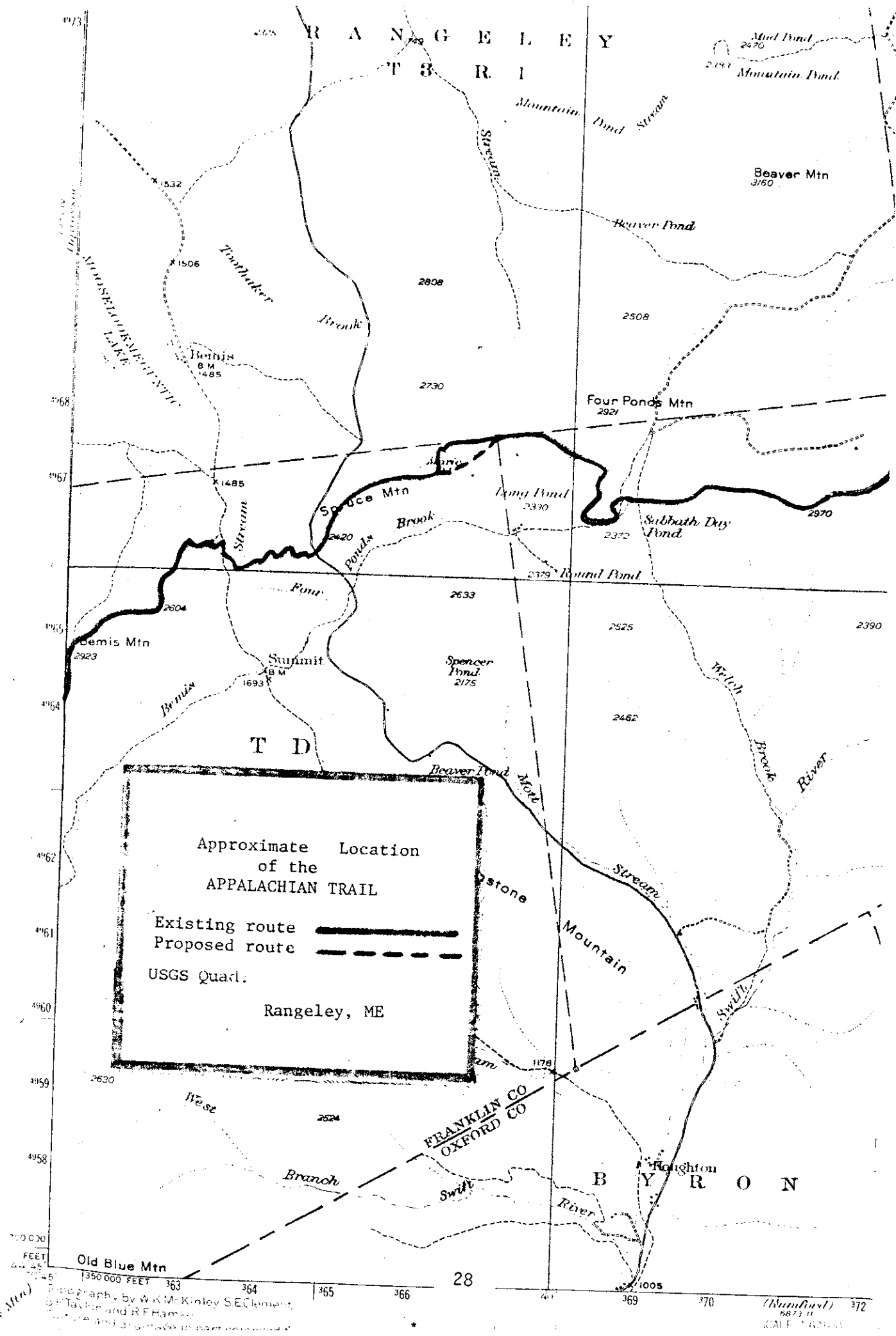
Existing route **—————**
Proposed route **- - - - -**

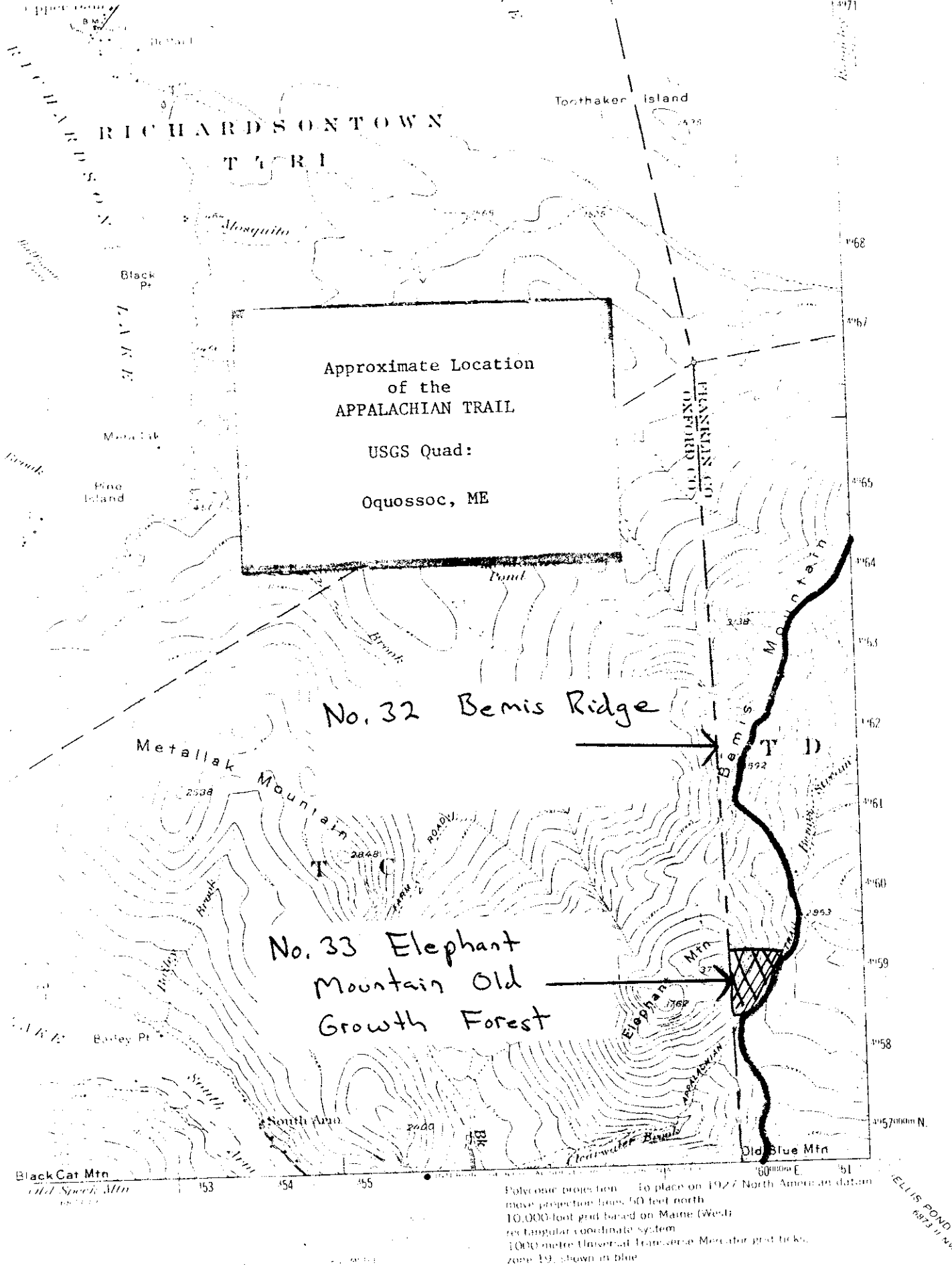
USGS Quad:

Rangeley, ME

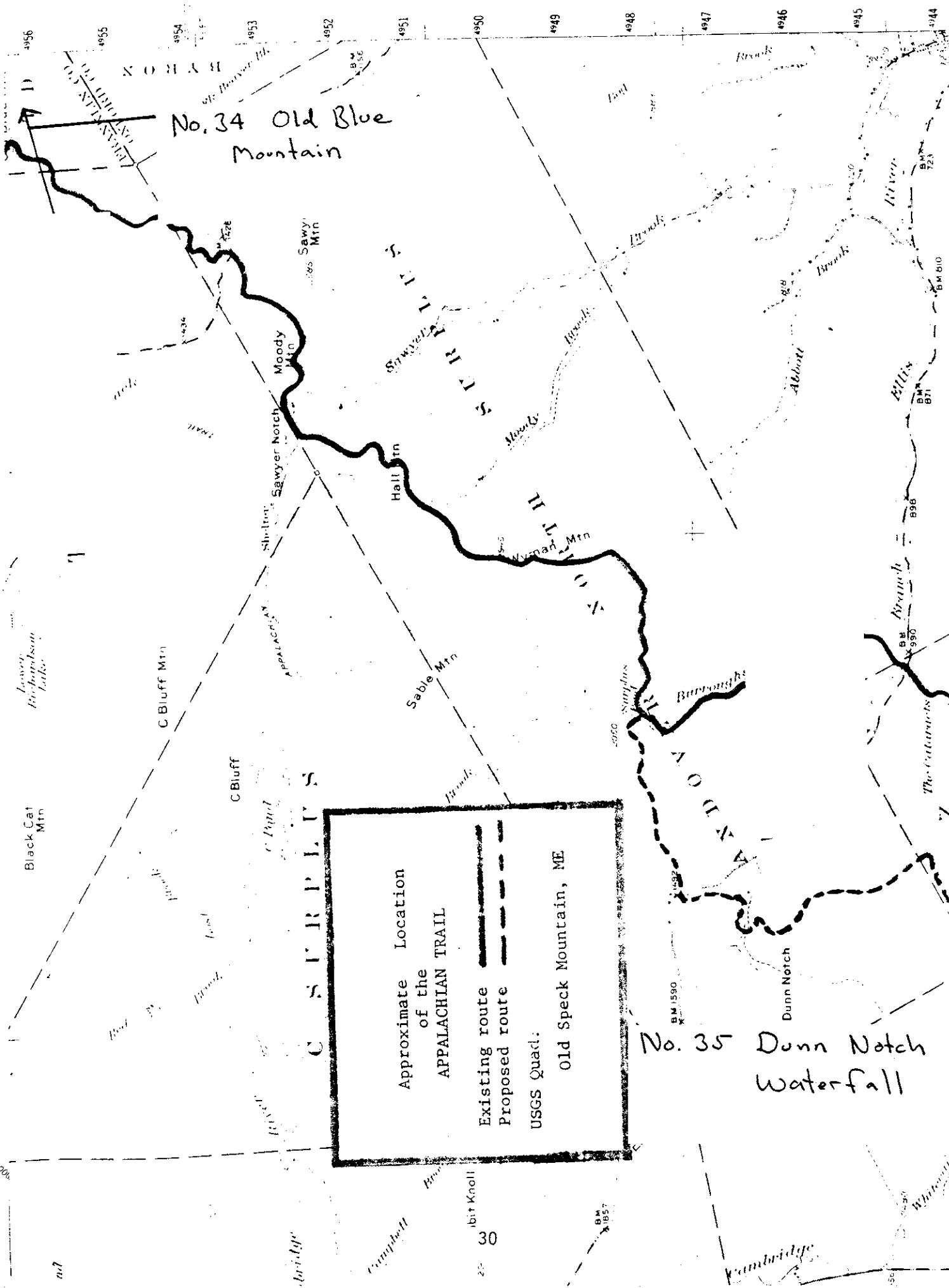
No. 30 Piazza Rock
and Boulder Cave

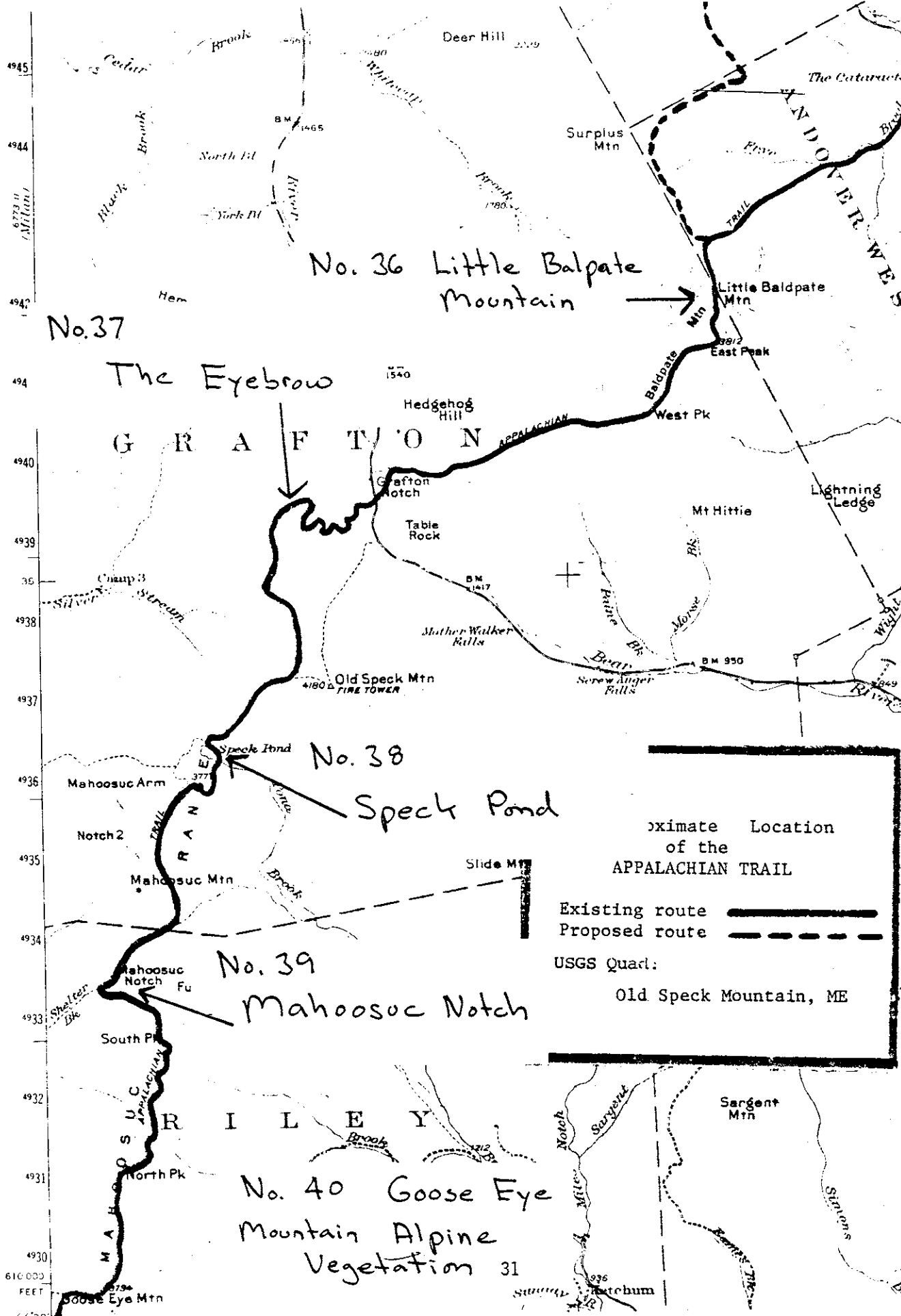
No. 31 Witham Bog

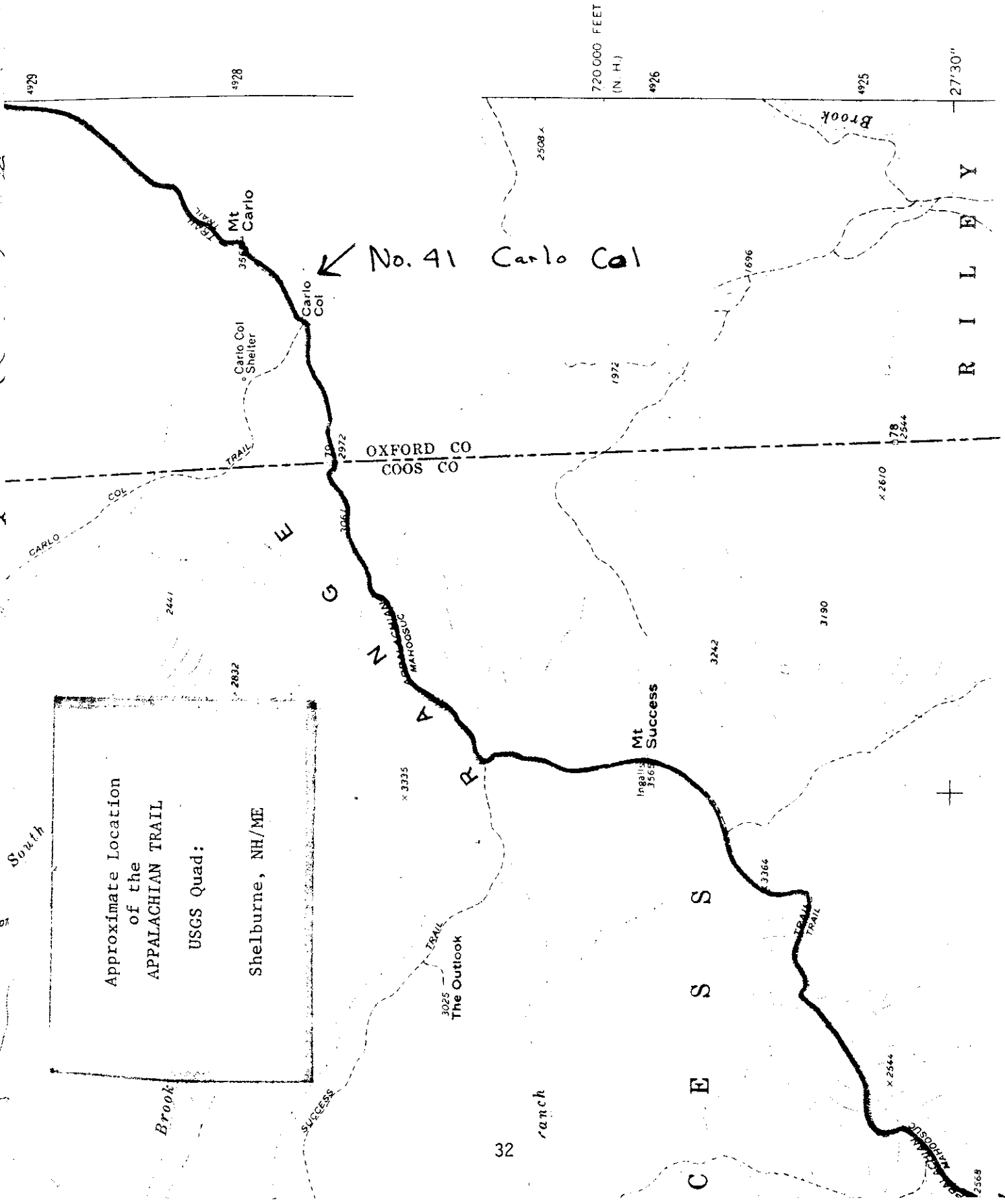




VERTICAL SCALE: 1" = 100 FEET
HORIZONTAL SCALE: 1" = 100 FEET







R I L E Y

No. 41 Carlo Col

OXFORD CO
COOS CO

Approximate Location
of the
APPALACHIAN TRAIL
USGS Quad:
Shelburne, NH/ME

drafted June 22, 1981

Draft

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 184 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Mount Katahdin Alpine-tundra Plant Communities and Rare Plant Areas
2. Critical Area Number
3. Location
 - A. Piscataquis County
 - B. T.3 R.9 WELS
 - C. Minor Civil Division Code Number - 21818
 - D. General Coordinates:
Latitude 45° 55' N" Longitude 68° 55' W"
 - E. U.S.G.S. Quadrangle: Katahdin 15' (1949)
4. Owner's Name and Address

State of Maine
Baxter State Park Authority
64 Balsam Drive
Milinockett, Maine

Attn: A. Lee Tibbs, Director
5. Boundaries and Size of the Area

The critical area includes that portion of Mount Katahdin above treeline (see topographic map). The critical area covers approximately 1650 acres (668 hectares).
6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Mount Katahdin is among Maine's most extensive and well-known natural areas. The Katahdin massif is an irregularly-shaped sloping upland that rises abruptly from comparatively flat country. The lower slopes are steep, whereas the uplands form gently sloping plateaus, with six peaks over 4600'. Baxter Peak, the highest, rises to an elevation of 5267'. The Katahdin massif is composed primarily of biotite, biotite muscovite granite, and quartz monzonite.

Katahdin is famous in many fields - zoologically and geologically for example - but is perhaps most important botanically. Its botanical

attributes may be looked at both from the community and the species viewpoint. Mount Katahdin has the greatest area of arctic-alpine plant communities in Maine, as well as the greatest number of rare arctic and alpine species of any area in the state.

The large area and topographic variation of the Katahdin massif provide the habitat for a great diversity of arctic-alpine vascular vegetation. A 1976 survey identified at least thirty-one species of arctic-alpine vegetation occurring over an area of approximately 600 acres. The characteristic plant communities on Mt. Katahdin include dwarf shrub heath, diapiensia, and sedge meadow.

The dwarf shrub heath is the most abundant community type of Mt. Katahdin, occurring just above the krummholz in the lee of rocks and in small depressions where snow patches provide moisture in the Spring. The dominant vascular plants are Low Sweet Blueberry (Vaccinium angustifolium), Alpine Bilberry (V. uliginosum), Labrador Tea (Ledum groenlandicum), and Pale Laurel (Kalmia polifolia). Dwarfed Balsam Fir (Abies balsamea), Paper Birch (Betula papyrifera), and Black Spruce (Picea mariana) often intermingle with these. Rush (Juncus) or Sedge (Carex) may codominate with the dwarf shrub heath species. Alpine Reindeer Lichen (Cladonia alpestris) and Hair-cap Moss (Polytrichum juniperinum) are the most important cryptogams in this community.

Discontinuous Diapiensia communities occur at wind swept sites along trails and other exposed areas. The dominant species in this community are Diapiensia (Diapiensia lapponica) and Mountain Sandwort (Arenaria groenlandica).

Sedge meadow communities characterize the highest slopes of the Katahdin massif. Bigelow's Sedge (Carex bigelowii) is the dominant plant in this community.

Both treeless mountains and arctic-alpine vegetation are unusual in the eastern United States. The Maine alpine environment is similar to that found in Labrador and Alaska and thus indicates floral affinities with arctic or subarctic environments. On Mount Katahdin, many plant species of arctic origin reach their southern limit, and may be considered "disjunct" from their principal range.

In all, 46 species of vascular plants which are considered rare in Maine have been found on Mount Katahdin making it a very "rich" botanical area. For many of these, Mount Katahdin is the only place in Maine where they occur. Approximately one-third of 46 species are species which characterize the alpine environment and which, therefore, may be found in many places above treelines. Some of those plants, particularly the

heaths (family Ericaceae) form spectacular carpets of bloom in early summer. The "typically alpine" species include the following (asterisks indicate those plants found in Maine only on Mount Katahdin):

Lycopodium selago
Fir clubmoss

a small, tufted clubmoss scattered in protected places, mostly above treeline. Rare throughout New England. Botanical Fact Sheet #

Carex bigelowii
Bigelow Sedge

our most common alpine sedge. Found in exposed, windswept areas. Rare throughout New England. Botanical Fact Sheet #

Juncus trifidus
Highland Rush

an alpine rush growing in dense tufts, in somewhat exposed areas above treeline. Rare at State level. Botanical Fact Sheet #

*Salix herbacea
Dwarf Willow

a shrub growing only 2-3" high: may form extensive mats. Nationally rare. Botanical Fact Sheet #

*Salix uva-ursi
Bearberry Willow

another prostrate willow, forming dense mats in exposed places. Rare throughout New England. Botanical Fact Sheet #

*Betula glandulosa
Dwarf Birch

two arctic birches, growing 1-2' high in some protected locations. Both nationally rare. Botanical Fact Sheets # &

*Betula minor
Dwarf White Birch

Geocaulon lividum
Northern Comandra

a low shrub resembling blueberries (Vaccinium spp.), found in moist areas. Currently known from 1 other Maine location (5 historic), and rare throughout New England. Botanical Fact Sheet #

Minuartia groenlandica
(= Arenaria g.)
Mountain Sandwort

herbaceous, bright green, tufted, with white flowers. Abundant especially in gravelly areas, often near trails. Rare throughout New England. Botanical Fact Sheet #

* Arctostaphylos alpina
Alpine Bearberry

a matted heath with greenish bell-shaped flowers and black berries. Forms extensive patches in exposed areas. Nationally rare. Botanical Fact Sheet #

- | | |
|--|--|
| <u>*Cassiope hypnoides</u>
Moss Plant | delicate, moss-like heath with nodding white or pink bell-shaped flowers. Found in protected places. Nationally rare. Botanical Fact Sheet # |
| <u>*Loiseleuria procumbens</u>
Alpine Azalea | matted evergreen heath with small leaves and small pink flowers in clusters. Found in somewhat protected places. Nationally rare. Botanical Fact Sheet # |
| <u>*Phyllodoce caerulea</u>
Mountain Heath | low, evergreen heath with narrow moss-like leaves and nodding purple bell-shaped flowers. Found in protected places. Nationally rare. Botanical Fact Sheet # |
| <u>*Rhododendron lapponicum</u>
Lapland Rosebay | matted evergreen heath with pink or purple flowers which are miniatures of our cultivated rhododendrons. Found in semi-exposed areas. Nationally rare. Botanical Fact Sheet # |
| <u>Diapensia lapponica</u>
Diapensia | one of the most abundant of the rare arctic-alpine plants. Dense, cushion-like plants with upright white flowers. Found scattered in most places above treeline. Nationally rare. Botanical Fact Sheet # |
| <u>Solidago cutleri</u>
Cutler's Goldenrod | a dwarf perennial goldenrod found in moist, protected places. Nationally rare. Botanical Fact Sheet # |

In addition to the above plants, which may be seen by almost any hiker traversing the Tableland or Baxter Peak, there are many other rare plants which are not as often seen. These are the plants which have made Katahdin famous among botanical explorers for over a century. Some of these, such as the Alpine Willow-herb (Epilobium alpinum), are restricted in the Eastern United States to Mount Katahdin & Mount Washington; for one, Saxifraga stellaris var. comosa, Mount Katahdin is the only place in the United States where it is found. Most of these species are restricted to a certain basin, gully, or ravine of the mountain. An aura of mystery surrounds a few plants (such as Carex rariflora) which were seen once or twice on the mountain, over 50 years ago, and never seen since.

These 30 more restricted plant species of Mount Katahdin are listed below, and those which are found in Maine only on Katahdin are marked with an asterisk. They are found in various parts of the Katahdin massif, such as the North Basin, South Basin, Basin Ponds, Klondike Pond Ravine, Chimney, etc.

Lycopodium sitchense
Sitka Clubmoss

an alpine or sub-alpine clubmoss. Rare throughout New England. Last reported from Katahdin in 1924.

Agrostis borealis
Boreal Bentgrass

a grass typical of alpine meadows: verified on Katahdin in 1978. Rare throughout New England. Botanical Fact Sheet # .

Calamagrostis neglecta
a Reed-Bentgrass

a grass collected on Katahdin in 1927 but not since found there. Rare throughout New England.

*Festuca prolifera
a Fescue

an arctic grass known in Maine from only 1 spot on Katahdin. Verified 1978, and nationally rare. Botanical Fact Sheet # .

Hierochloë alpina
Alpine Holy-Grass

a grass formerly found in several places on Katahdin: last seen 1954. Currently known from 1 other Maine station (Bigelow). Rare throughout New England.

Phleum alpinum
Alpine Timothy

a dwarfed relative of our common timothy grass. Collected on Katahdin in 1892, and not seen since. Rare throughout New England.

*Poa fernaldiana
a Blue-grass

an alpine grass which is rare throughout New England. Last seen on Katahdin in 1929.

Carex atratiformis
a sedge

a nationally rare sedge last seen on Katahdin in 1965. Botanical Fact Sheet # .

Carex rariflora
a sedge

an enigmatic sedge reported from Katahdin in 1861 and not seen since. Rare throughout New England.

Carex scirpoidea
a sedge

an arctic sedge which is rare throughout New England. Last seen on Katahdin in 1929.

*Luzula confusa
a Wood-rush

a nationally rare rush found along the Knife Edge. Verified in 1978. Botanical Fact Sheet # .

*Salix arctophila
Arctic-Loving Willow

a dwarfed, spreading willow known from only 1 spot on Katahdin, its only New England station. Nationally rare. Verified in 1978. Botanical Fact Sheet # .

- *Salix argyrocarpa
Silver-leaf Willow an arctic willow reported from places on Katahdin, last seen in 1940. Nationally rare.
- *Salix planifolia
Flat-leaf Willow an arctic willow found on Katahdin in 1900, and not seen since 1950. Nationally rare.
- *Polygonum viviparum
Knotweed an herbaceous, tiny-flowered plant found on Katahdin in only one spot. Verified in 1978. Nationally rare. Botanical Fact Sheet # .
- *Silene acaulis var. exscapa
Moss Campion a small, pink-flowered, tufted plant found on Katahdin in 1847 and again around 1860, and not seen since. Rare throughout New England.
- *Cardamine bellidifolia
Alpine Bitter-cress an herbaceous, small-flowered plant found in damp mossy crevices. Verified in 1978. Nationally rare. Botanical Fact Sheet # .
- Saxifraga aizoon
var. neogaea
a Saxifrage a small herbaceous perennial with white flowers, found growing out of the rocks in the Chimney. Verified in 1978. Nationally rare. Botanical Fact Sheet # 11.
- *Saxifraga stellaris
var. comosa
Starry Saxifrage three locations on Katahdin are the only places in the United States where this small, white flowered plant grows. Nationally rare, and verified in 1980. Botanical Fact Sheet # .
- *Viola palustris
Violet an alpine violet seen on Katahdin in 1900, but not since. Rare throughout New England
- *Epilobium alpinum
Alpine Willow-herb a low herbaceous plant restricted on Katahdin to a few wet pockets above treeline. Rare throughout New England. Verified in 1978. Botanical Fact Sheet # .
- *Epilobium anagallidifolium
Pimpernel-leaved
Willow-herb found with E. alpinum on Katahdin, and not found elsewhere in New England. Verified in 1978. Botanical Fact Sheet #
- Vaccinium boreale
Alpine Blueberry a recently-described species of blueberry with a restricted range. Nationally rare. Material collected on Katahdin in 1847 & 1928 was later identified as this species, but it has not been collected since.

Castilleja septentrionalis
Northern Painted-cup

a boreal species also found in Maine along St. John River. Rare throughout New England. Verified in 1978. Planning Report # .

*Euphrasia oakesii
Oakes' Eyebright

a small herbaceous plant confined to a few wet spots above treeline. Nationally rare. Varified in 1978. Botanical Fact Sheet # .

*Veronica alpina
var. unalaschensis
Alpine Speedwell

like the preceding, found in seepage areas in a few spots on Katahdin. Verified in 1978. Rare throughout New England. Botanical Fact Sheet # .

Arnica mollis
Arnica

a yellow flowered composite which, like the Castilleja is also found in Maine along the St. John River. Last seen on Katahdin in 1967. Rare throughout New England.

*Gnaphalium supinum
Alpine Cudweed

a low, white flowered plant found near the highest parts of Katahdin. Verified in 1978. Nationally rare. Botanical Fact Sheet # .

Prenanthes boottii
Boott's Rattlesnake-root

a composite with drooping, pale yellow flower-heads, found on only a few mountains of the northeastern U.S. Under review as a candidate for Endangered or Threatened species; nationally rare. Verified in 1978. Botanical Fact Sheet # 31.

These very rare species, though not often seen, are of interest because they are true arctics ranging further north than do most of the alpine species which dominate the tableland and peaks. Mount Katahdin would be important as a location for any one of these species; the assemblage of so many in one place is truly outstanding.

For more information on the arctic-alpine vegetation of Katahdin, see the planning report on Alpine Tundra Vascular Vegetation and the report Rare Vascular Plants of Maine.

Among entomologists, Katahdin is renown as the habitat for the Katahdin Arctic Butterfly (Oeneis polixenes Katahdin), a local and relict sub-species which is entirely restricted to the tableland of Mount Katahdin. Members of this genus (in the family Nymphalidae) commonly called Arctics, are circumpolar and are rarely found in the contiguous United States. The Katahdin Arctic can be found among the low tundra vegetation of the tableland, particularly in the area from the Saddle to the Northwest Plateau. With its brown and grey markings, it is remarkable well camouflaged. For more information on this endemic butterfly, see Planning Report Number 35 (The Katahdin Arctic Butterfly).

Mount Katahdin is known for its geological features as well as for its biological features. It is, of course, Maine's highest mountain; and it also exhibits some classic results of glaciation. The great Basin, the North Basin and the Northwest Basin are all typical and spectacular cirques, with steep headwalls and a broad bowl-like shape. What is called "The Saddle" is a well-developed col. The famous Knife Edge is an excellent example of an arete; a less dramatic arete is Hamlin Ridge. The erratics - superficial boulders differing from the underlying bedrock - which are found near Baxter Peak supply important evidence of Katahdin's past, showing that the mountain was indeed once covered by a glacier which left these miscellaneous rocks as it retreated. A more detailed discussion of Katahdin's geological features may be found in The Geology of Baxter State Park & Mount Katahdin, Bulletin Number 12 of the Maine Geological Survey.

Mount Katahdin is a unique natural area. It is included on the Register of Critical Area specifically for the following reasons:

- 1) it supports the most extensive and diverse arctic-alpine vegetation communities in Maine;
- 2) 46 species of vascular plants which are rare at State, New England, or National level are found here;
- 3) it is the habitat for the endemic Katahdin Arctic butterfly;
- 4) it is the highest mountain Maine, and also has exemplary geological features; and
- 5) its scenery and recreational values are unparalleled in Maine, if not in the entire Eastern United States.

7. Date Registration Becomes Effective

Draft

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine 04333, Telephone (207) 289-3155.

1. Name Little Niagara Falls

2. Critical Area Number

3. Location

A. Piscataquis County

B. Town T3 R10 WELLS

C. Minor Civil Division Code Number - 21841 U

D. Latitude 45° 52' 18" Longitude 69° 2' 18"

E. U.S.G.S. Quadrangle: Harrington Lake, Maine 15'

4. Owner's Name and Address

Baxter State Park Headquarters
64 Balsam Drive
Millinocket, Maine 04662
Attn: Lee Tibbs, Director

5. Boundaries and Size of the Area

Little Niagara Falls occurs on Nesawadnehunk Stream in T3R10WELS of Piscataquis County. It lies within Baxter State Park near the southern border.

Beginning in the center of the stream approximately 20 meters (66 feet) downstream from the Old Toll Dam, or 2 meters above the center lip of the 1.8 meter (6 foot) drop, the northern boundary extends for 15 meters (50 feet) perpendicular to the thread of the stream in both an easterly and westerly direction. The eastern boundary begins at the eastern end of the northern boundary and runs southward in a downstream direction for 32 meters (106 feet) parallel to and setback 15 meters (50 feet) from the thread of the stream. The southern boundary begins at the southern end of the eastern boundary and extends westward for 30 meters (100 feet) perpendicular to the thread of the stream. The western boundary begins at the western end of the southern boundary and runs northward in an upstream direction for 32 meters (106 feet) parallel to and setback 15 meters (100 feet) from the thread of the stream.

The critical area covers a total area of approximately 960 square meters (.096 hectare of 0.24 acre

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Little Niagara Falls on Nesawadnehunk Stream is a scenic falls which occurs in Baxter State Park. It is one of significant waterfalls in the Penobscot River Drainage Basin and is noted for its highly scenic and natural beauty.

Little Niagara Falls consists of two drops approximately 23 meters (75 feet) apart. The main falls drops approximately 3.6 meters (12 feet) and is nearly vertical. It is preceded by a 1.8 meter (6 foot) drop and a section of rapids. A large outcropping of granite protrudes into the stream on the east bank to create a bend in the stream and cause the high flow of the small stream to chute through a narrowed opening over the main drop. The stream averages about 0.6 meter (20 feet) wide in this area except at the main falls.

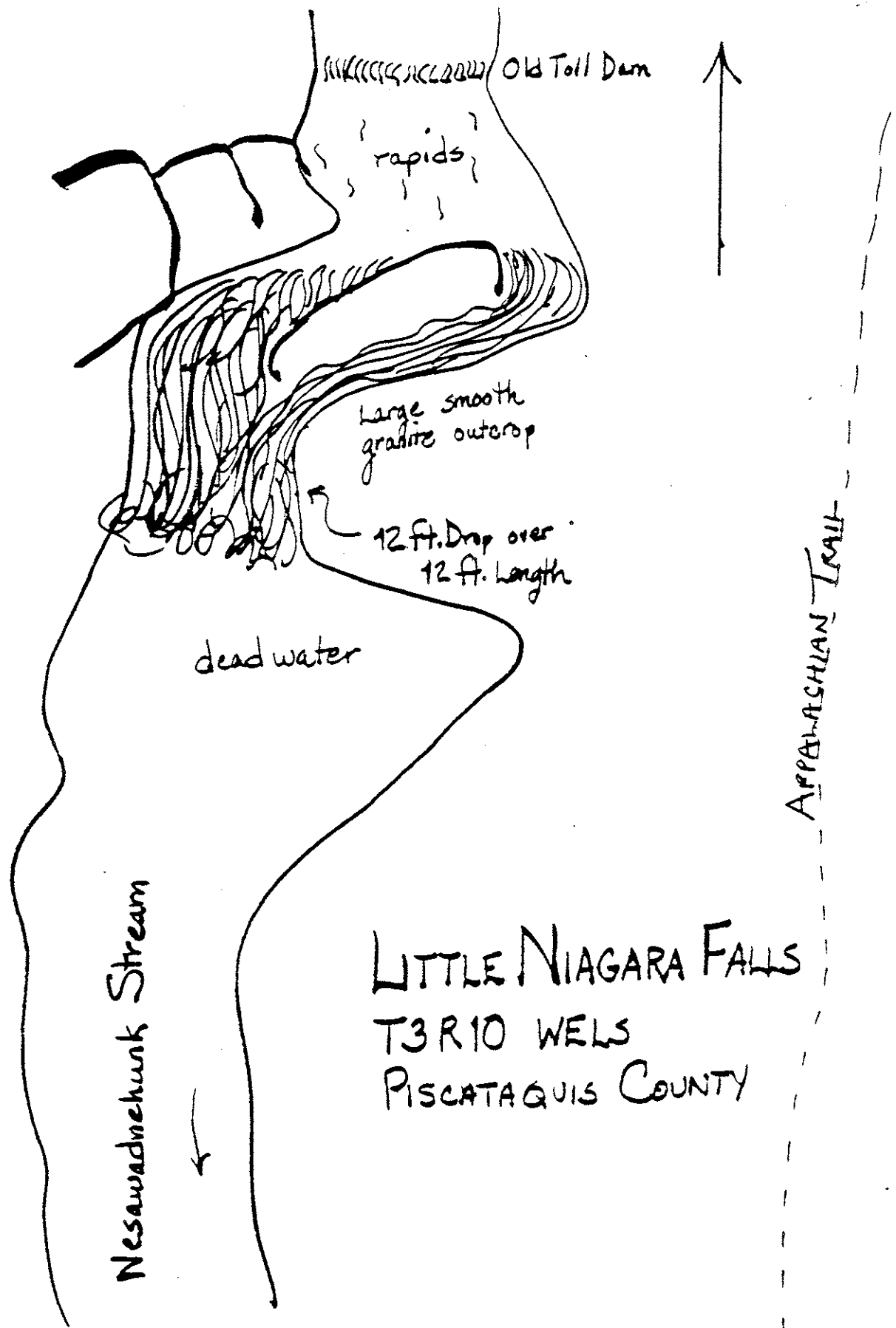
Bedrock is Katahdin granite of Ordovician age. Good exposures occur all along the banks at the falls.

The area is highly natural and is well maintained by Baxter State Park authority. A hiking trail occurs along the east bank however no signs of trash were found. Cedar, white birch, spruce, and fir characterize the surrounding vegetation.

Little Niagara Falls is one of significant waterfalls in Maine. It is one of significant falls sites in Piscataquis County. The primary reasons for recommending Little Niagara Falls to the Register of Critical Areas are:

- 1) The good exposures of bedrock;
- 2) The high flow of water over the main 3.6 meter (12 foot) falls;
and
- 3) The outstanding scenic and natural beauty of the falls area.

For further information on waterfalls in Maine, see the planning report by Dr. Thomas Brewer.



Draft

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine 04333, Telephone (207) 289-3155.

1. Name Big Niagara Falls

2. Critical Area Number

3. Location

A. Piscataquis County

B. Town T3 R10 WELS

C. Minor Civil Division Code Number - 21841 U

D. Latitude 45° 52' 8" Longitude 69° 2' 10"

E. U.S.G.S. Quadrangle: Harrington Lake, Maine 15'

4. Owner's Name and Address:

Baxter State Park Headquarters
64 Balsam Drive
Millinocket, Maine 04662
Attn: Lee Tibbs, Director

5. Boundaries and Size of the Area

Big Niagara Falls occurs on Nesawadnehunk Stream in T3R10 WELS of Piscataquis County. It lies within Baxter State Park near the southern border.

Beginning in the center of the stream, 75 meters (246 feet) upstream from the center lip of the main drop, the northern boundary runs 20 meters (66 feet) perpendicular to the thread of the stream in both an easterly and westerly direction. The eastern boundary begins at the eastern end of the northern boundary and runs southward in a downstream direction for 175 meters (574 feet) parallel to and setback 20 meters (66 feet) from the thread of the stream. The southern boundary begins at the southern end of the eastern boundary and extends westward for 40 meters (132 feet) perpendicular to the thread of the stream. The western boundary begins at the western end of the southern boundary and runs northward in an upstream direction for 175 meters (574 feet) parallel to and setback 20 meters (66 feet) from the thread of the stream or until it meets the northern boundary.

The critical area includes a total area of approximately 7000 square meters (0.7 hectare or 1.7 acre).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Big Niagara Falls is one of a series of scenic waterfalls and rapids along the lower reaches of Nesawadnehunk Stream in Baxter State Park. It is one of significant falls in the Penobscot River Drainage Basin. The total vertical drop along this 155 meter (510 feet) section of the stream is approximately 21.3 meters (70 feet). The main falls occurs at about the midpoint of the critical area and drops 6.1 meters (20 feet). At the top of the drop, the stream is about 9 meters (30 feet) wide. At its base, smooth granite outcroppings in the stream cause the high flow to be funnelled through a 1.8 meter (6 foot) wide section after which it fans out again to about 12 meters (40 feet) in width and drops 1.5 meters (5 feet). Below this, the stream passes through a section of deadwater for about 18.3 meters (60 feet), then drops another 3 meters (10 feet) over a distance of 27 meters (90 feet). The stream here is about 9 meters (30 feet) and flows over large granite boulders.

Preceding the main falls are two small drops of 0.9 and 1.2 meters (3 and 4 feet) within about a 32 meter (105 foot) distance. Prior to this stretch, water flows over a slide of smooth granite and drops about 0.9 meter (3 feet) in 32 meters (105 feet).

Bedrock in this area is Ordovician Age pink and gray Katahdin granite. Very smooth outcroppings occur all along the east bank with large boulders and jointed blocks of granite exposed within the stream and on its west bank.

Glacial stream erosion features occur in various places along the banks, the most outstanding of which are displayed in the outcropping at the main falls. Pot holes, scour marks, and other hydraulic sculptures can be seen in the smooth rock.

Of historical significance is the occurrence of old pin holes in the granite next to the main drop where spikes were driven to build structures with which to aid log driving over the falls.

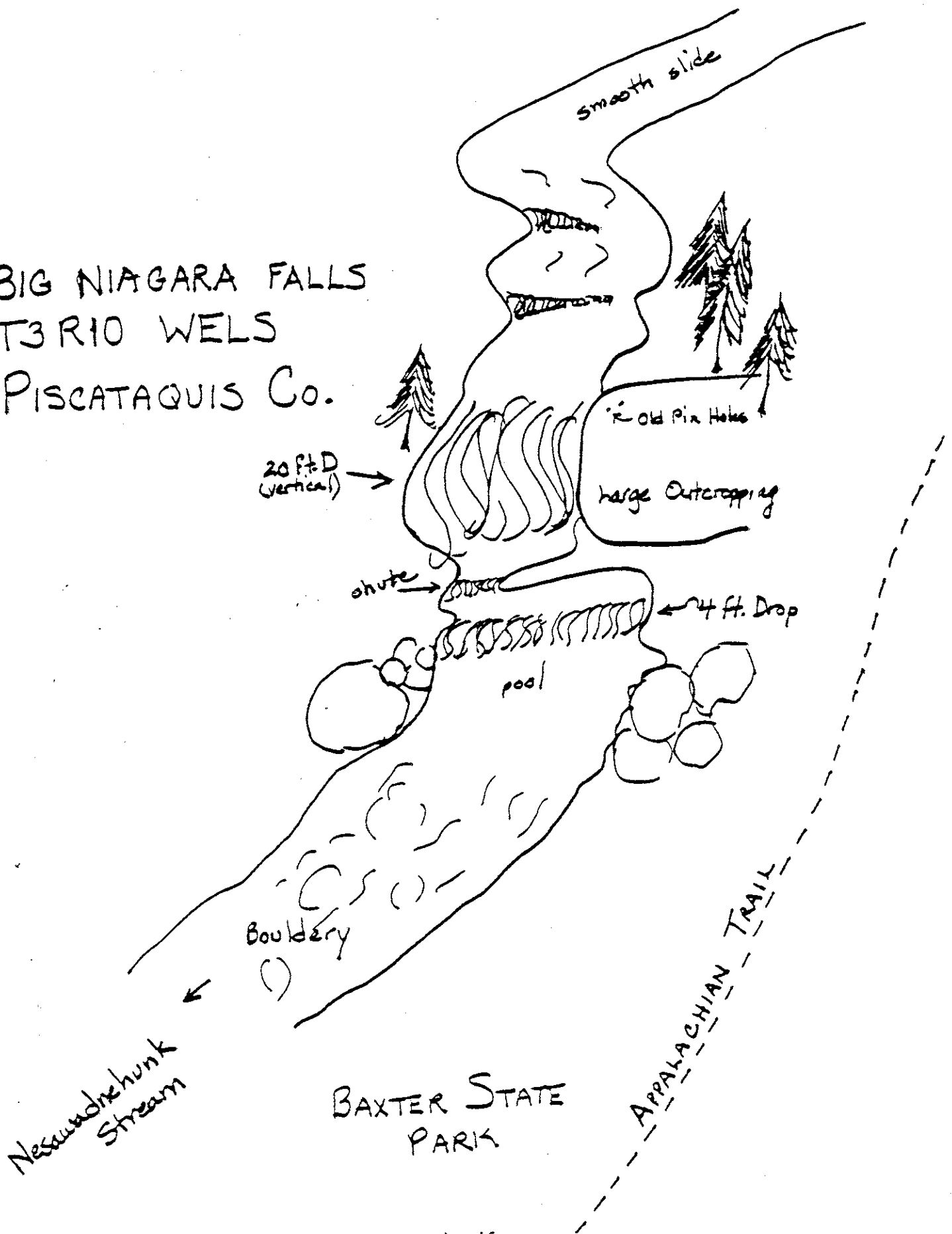
White pine, cedar, elm, white birch, alder and red maple characterize the surrounding area which is well-maintained by Baxter State Park authorities. A hiking trail runs along the east bank however no trash was seen. Good views of the falls are possible at several spots on the rocks.

Big Niagara Falls is one of significant waterfalls in Maine. It is one of significant falls sites in Piscataquis County. The primary reasons for recommending Big Niagara Falls to the Register of Critical Areas are:

- 1) The geologic and hydrologic attributes of the site including the significant vertical drop, good exposures of bedrock, and excellent examples of glacial stream erosion;
- 2) The outstanding scenic and natural beauty of the falls area; and
- 3) The historical significance of the falls as obstructions to log driving.

For further information on waterfalls in Maine, see the planning report by Dr. Thomas Brewer.

BIG NIAGARA FALLS
T3 R10 WELS
PISCATAQUIS Co.



Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Nesowadnehunk Falls

2. Critical Area Number 1N

3. Location

A. Piscataquis County

B. Township of T2 R10

C. Minor Civil Division Code Number - 21838

D. U.S.G.S. Quadrangle Harrington Lake 15"

E. Latitude 45° 50' 40" Longitude 69° 2' 0"

4. Owner's Name and Address

Mr. J. R. Goody, Manager
Timberlands and Forestry
Great Northern Paper Company
Millinocket, ME 04462

5. Boundaries and Size of the Area

Nesowadnehunk Falls is on the West Branch of the Penobscot River in T2 R10 Township and is located about 0.8 kilometers (0.5 miles) west of where Nesowadnehunk Stream meets the West Branch of the Penobscot.

The boundary of the critical area is defined by a circle of 150 meter (492 feet) radius circumscribed around the center of the largest (2 meter-6.6 feet) drop (see map). The total area of the critical area is about 7 hectares (17.5 acres).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Nesowadnehunk Falls is a broad, horseshoe shaped falls with a drop of about 2 meters (6.6 feet). The flow of the River through the critical area is several thousand ft.³/sec. and is dependent on the regulation at Ripogenus Dam. The water color at the site is brown and odorless.

The bedrock of the area consists of an excellent exposure of a small granodiorite stock which has been intruded into the Katahdin quartz monzonite. The Falls have developed across the blocky sheeting cleavage of this granodiorite. The exposed bedrock at the site is probably the best exposure of the granodiorite stock in the area.

The area surrounding the Falls is wooded with mixed fir and several portage trail are maintained by canoeists. There is a spectacular view of Mount Katahdin from the Falls location and the area is a natural setting except for the proximity of the Millinocket Road.

The Nesowadnehunk Falls section of the West Branch of the Penobscot has a long illustrious history in the development of the log driving of the State, and in the industrial history of the Great Northern Paper Company.

Nesowadnehunk Falls is one of ten significant waterfalls in the Penobscot River Basin and is one of thirty-seven waterfalls which have met the criteria for inclusion on the Critical Areas Register as determined by Dr. Thomas Brewer during his 1977-1978 study.

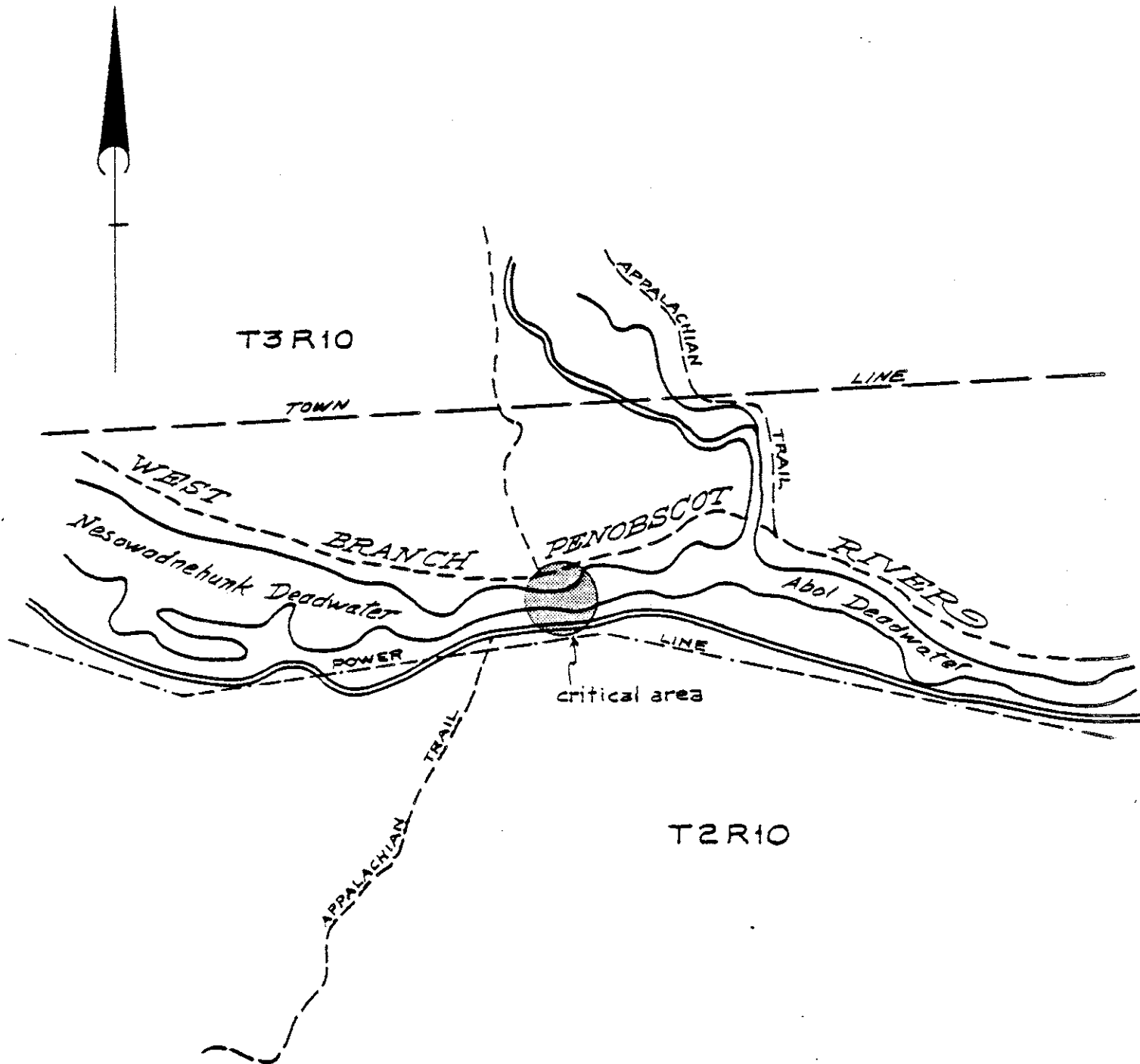
The reasons for inclusion of the Nesowadnehunk Falls area on the Critical Areas Register are 1) the excellent exposure of the small granodiorite stock in the area, 2) the exceptional scenic quality of the area, and 3) the historic significance of the Falls locality.

For further information see the planning report, waterfalls in Maine and Their Relevance to the Critical Areas Program of the State Planning Office, by Dr. Thomas Brewer.

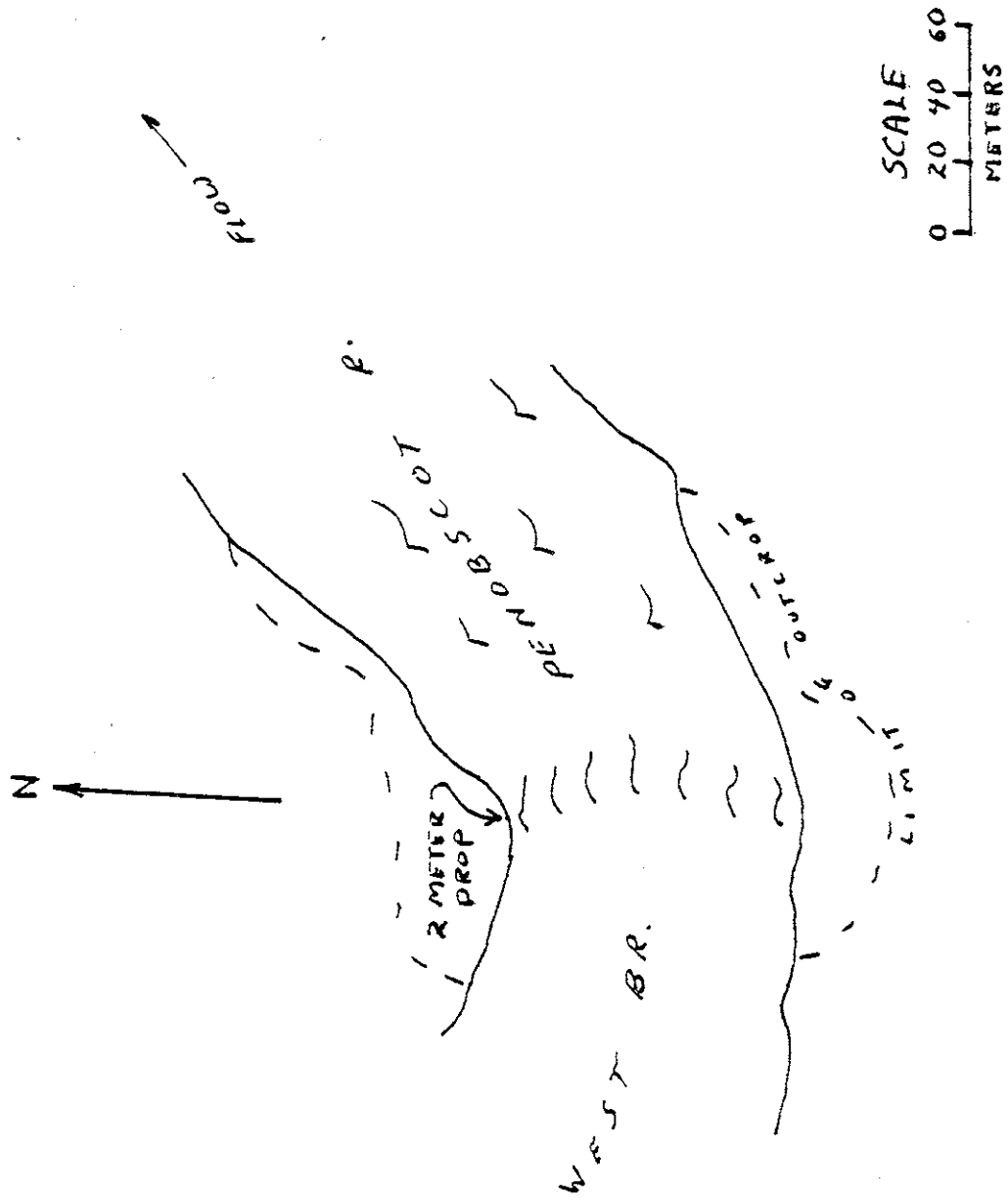
7. Date Registration Becomes Effective

Nominated January 19, 1979

NESOWADNEHUNK FALLS



NESOWADNEHUNK FALLS



Draft

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine 04333, Telephone (207) 289-3155.

1. Name Nesuntabunt Old Growth Spruce - White Pine Stand

2. Critical Area Number

3. Location

- A. Piscataquis County
- B. T1 R11 WELS, Rainbow Town
- C. Minor Civil Division Code Number - 21831
- D. Latitude: 45° 45' 5" Longitude: 69° 09' 15"
- E. U.S.G.S. Quadrangle: Harrington Lake, 15', 1954

4. Owner's Name and Address

Diamond International Corp.
Woodlands Division
Old Town, Maine 04468
Attn: Mis Linda Alverson, Project Forester

5. Boundaries and Size of the Area

The critical area is 0.2 mile (.3 km) southwest of Nahmakanta Lake and 1 mile (0.6 km) east of the summit of the northern peak of Nesuntabunt Mtn. The stand is located where the slope levels off and the terrain becomes bouldery. This boundary was not surveyed on the ground. The beginning closest to the lake (elevation 900') proceed at a direction of N30°W for 0.6 mile (1 km). Next, it turns S60°W, away from the lake for a distance of ¼ mile (0.4 km). The boundary then runs a distance of 0.6 mile at a bearing of S30°E, roughly parallel to the Appalachian Trail. The fourth side of the boundary runs at a bearing of N60°E for ¼ mile to the point nearest Nahmakanta Lake.

The critical area is approximately 10 acres (4 hectares) in size.

6. Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

This stand, composed of 60% red spruce (*Picea rubens*) contains trees of superlative form, aging over 140 years. The area has never been logged. Natural old growth forest stands are rare features in Maine and the Eastern United States. Because these ecosystems have undergone centuries of development, they possess a special value especially for scientific and educational purposes. From these areas, information on past climate, soil-vegetation relationships, and natural succession can be derived to compare with managed stands. In addition, natural old growth stands complete Maine's forest history by serving as examples of forests that settlers may have viewed as they made their way through Maine.

This stand of red spruce and white pine (*Pinus strobus*) displays excellent form and health. The stand is found on the northern Nesuntabunt Mountain (elevation 950')

in northern Maine. Nesuntabunt Mountain is 30 miles northeast of Greenville. The steep, 42 percent slope and ledges found on these eastern slopes near Nahmakanta Lake have protected the stand from harvesting. The Appalachian Trail will be rerouted through the stand, and its corridor should offer protection to the trees in the future.

The trees, aging over 140 years, occupy the best microsites, growing in the deepest soils among the boulders and ledges. Both the spruce and the pine are of high quality, exhibiting cylindrical trunks, good crowns, and natural pruning that makes this an exemplary natural stand.

The stand is even-aged, occupying a ten-acre area. Throughout the stand, red spruce is the dominant plant regenerating on the needle-covered forest floor.

Data collected on twenty trees appears below. Average d.b.h. (diameter at breast height) of red spruce is 17 inches, and 23 inches for white pine.

Number of Trees

<u>d.b.h. (inches)</u>	<u>Red spruce</u>	<u>White Pine</u>
14	2	
15	3	
16	2	
17	1	1
18		2
20	1	1
22	1	
23		2
25		1
26		1
27		1
28		1

Increment Corings at d.b.h.

<u>Species</u>	<u>d.b.h. (inches)</u>	<u>Age Years</u>
Red spruce	16	142
Red spruce	16	145
White Pine	18	167

The Critical Areas Program inventoried and evaluated old growth stands in Maine and found that the old growth red spruce-white pine stand on Nesuntabunt Mtn. met the criteria for inclusion on the Critical Areas Register.

For further information, see the planning report, "Natural Old Growth Forest Stands in Maine and Their Relevance to the Critical Areas Program," by John Grena.

The reasons for inclusion of the Nesuntabunt Mtn. old growth red spruce-white pine stand on the Critical Areas Register are:

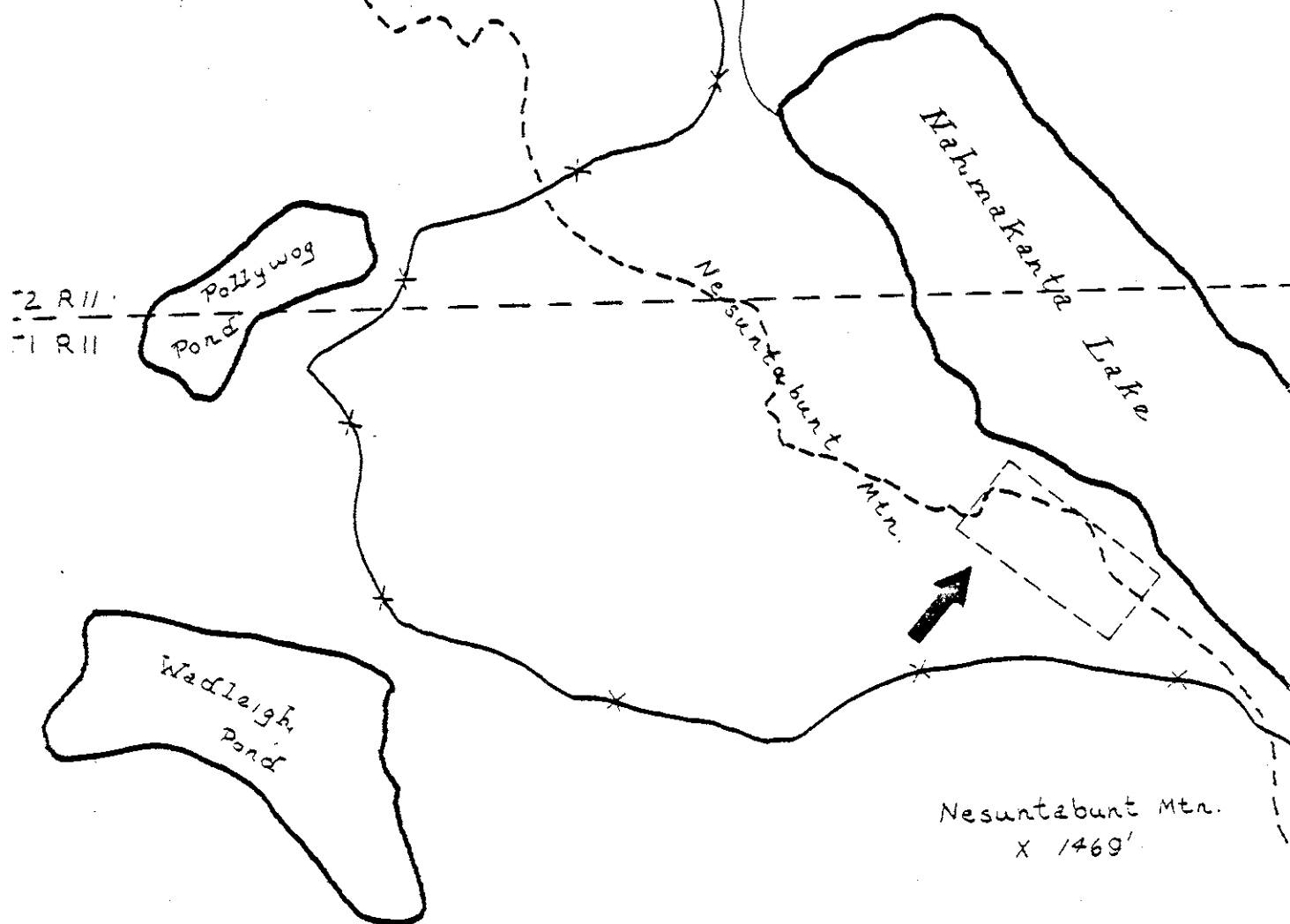
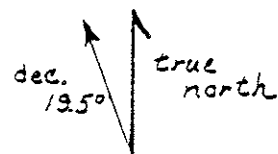
- 1) the stand is an excellent example of a red spruce cover type containing white pine.
- 2) the pine and spruce are exemplary in form.
- 3) the trees in the stand are older than 140 years.
- 4) the stand's location and health indicate that the feature will persist for many decades to come.

- 5) the site will serve as a scenic and educational highlight along the Appalachian Trail, which will be rerouted through the stand.
- 6) the area has never been harvested.

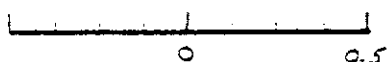
7. Date Registration Becomes Effective

Nesuntabunt Mtn. old growth
 ed spruce - white pine stand
 T1 R11, Piscataquis county

register of critical areas



SCALE



1" = 0.5 miles

- Old growth stand
- *-* Old Appalachian Trail
- New Appalachian Trail

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Gulf Hagas

2. Critical Area Number 281

3. Location

A. Piscataquis County

B. (Town) T7R10

C. Minor Civil Division Code Number - 21867

D. Latitude 45° 28' 30" Longitude 69° 29' 0"

E. U.S.G.S. Quadrangle - Sebec Lake 15" Maine 1950

4. Owner's Name and Address

Mr. Robert D. Cope
Regional Timberlands Manager
St. Regis Paper Company
Main Street
Bucksport, Maine 04416

5. Boundaries and Size of the Area

Gulf Hagas is located on the West Branch Pleasant River in T7R10 of Piscataquis County. It begins about 20 meters (66 feet) downstream from Bear Brook and ends approximately 40 meters (132 feet) south of Gulf Hagas Brook. The boundaries of the critical area are the same as those adopted by the St. Regis Paper Company and read as follows:

Beginning at the north bank of the West Branch of the Pleasant River on the boundary line between land of St. Regis Paper Company and Diamond International Corporation; thence N8°E a distance of 14.9 ch. along said boundary line to a post; thence N26°W 25.0 ch. along a white painted line to a post; thence S89°W a distance of 25.9 ch. to a post; thence N43°W a distance of 21.4 ch. to a post; thence N79°W a distance of 18.9 ch. to a post; thence N38°W a distance of 37.3 ch. to a post; N53°W a distance of 41.32 ch. to a post; thence S10°W a distance of 12.35 ch. to the West Branch of the Pleasant River; thence continuing on the same bearing 12.0 ch. to a post; thence S63°30' E a distance of 19.4 ch. to a post; thence S27°E a distance of 37.3 ch. to a post; thence S6°E a distance of 25.9 ch. to a post; thence S20°E a distance of 22.9 ch. to a post; thence S58°30' E a distance of 87.3 ch. to a post on the boundary line between land of St. Regis Paper Company and Diamond International Corporation; thence N8°E along said boundary line a distance of 3.0 ch. to the point of beginning.

The critical area includes a total area of approximately 1,828,357 square meters (182.8 hectares or 451.6 acres).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Gulf Hagas, on the Pleasant River, is a narrow twisting canyon surrounded by a spruce - fir forest and designated the Gulf Hagas Reserve. Recognized as a National Natural Landmark by the U.S. National Park Service, this gorge displays both outstanding scenic and natural features.

Both the length and depth of the gorge rank third largest in the state at 5km and 45m respectively; with these figures made even more impressive by the gorge's outstanding degree of narrowness, showing an estimated width/depth ratio as low as 0.5 in many spots. Within the Gulf, there are five major falls and continuous rapids of significance by themselves. The important fall localities in Gulf Hagas are called (from upstream to downstream) Billings Falls, Starr Falls, Buttermilk Falls, the Jaws Hammond St. Pitch, and on the tributary stream called Gulf Hagas Brook, Screw Auger Falls. Total drop in 5km is 125m with water flow at an estimated rate of 25 ft³/sec. Although the water is slightly brown in color, it has no odor or other objectionable characteristics.

The origin of Gulf Hagas is not entirely clear. There are fluvial scour marks and pot-holes as much as 30m above the present stream elevation. These features would not have survived continental glaciation so evidently, the gulf is of recent origin. Pleasant River which flows through the Gulf does not appear to be capable, at present, of performing this sort of erosion.

While most gorges in the State are composed of granite, Gulf Hagas is characterized by an impressive bedrock of grey slate. The direction taken by the Gorge seems to cross out the regional rock cleavage of this low grade metamorphic rock-cleavage being at N70°E.

According to Dr. Thomas Brewer, the best explanation for the origin of the Gulf is that it was actually carved by a major ice melt stream under dead ice which still occupied the region at the time. A major amount of sand and gravel between Katahdin Iron Works and the Hermitage suggests this possibility.

With regard to its scenic attributes, this locality is considered to be outstanding without parallel in the region, and without a doubt, one of the five most scenic areas in the State. The Appalachian Trail follows the north rim of the Gorge with many good vistas of the canyon developed along the way. Historical evidence shows that at one time, logs were driven through the Gulf although the problems which attended this process must have been manifold. Evidently a good number of obstructions were blasted out of the Gulf to permit the drives.

Today, naturalness of the area is protected by the Gulf Hagas Reserve, however, overuse of the trails has been considered to be a potential problem.

The reasons for inclusion of Gulf Hagas on the Register are:

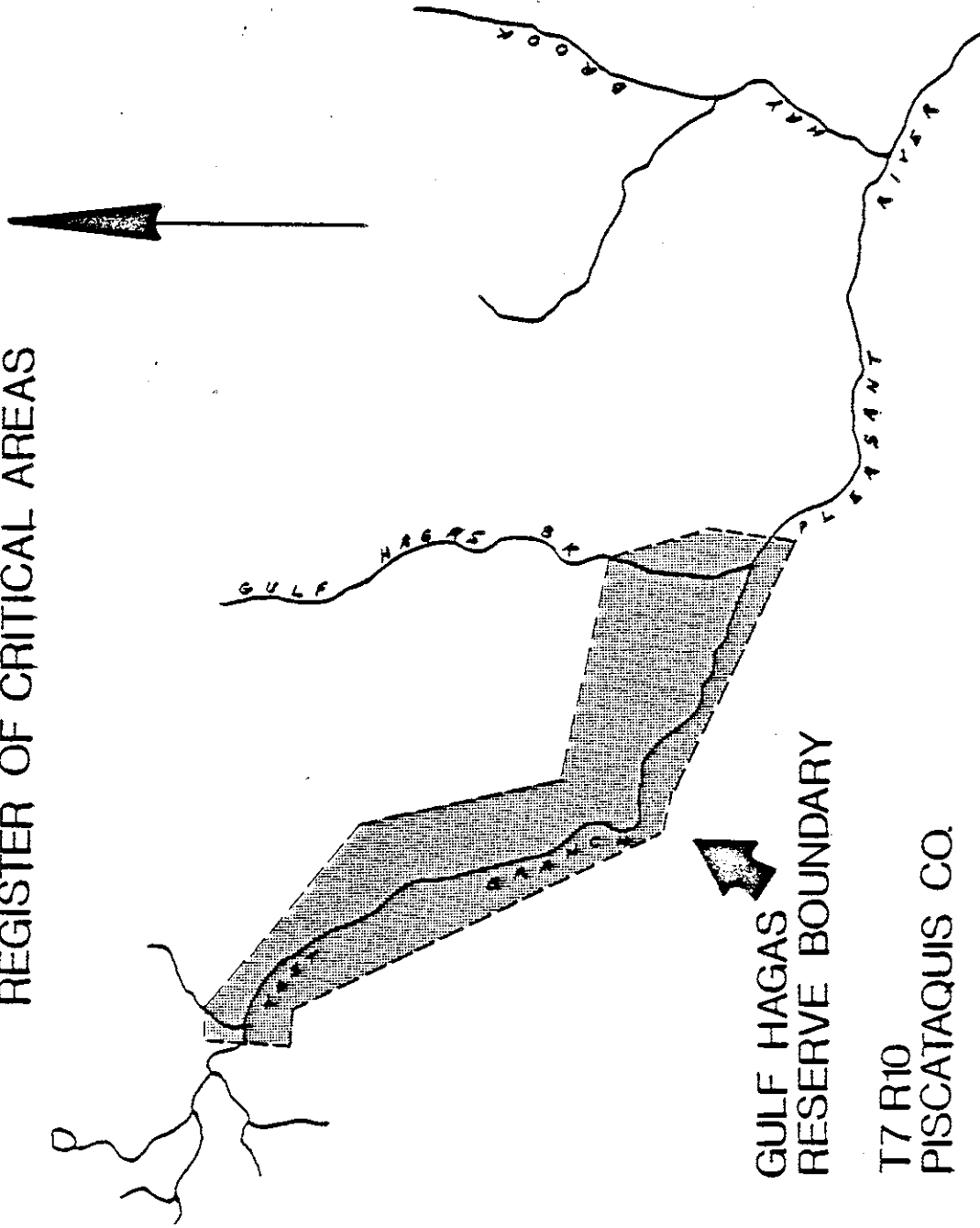
- 1) Its designation by the U.S. National Park Service as a national natural landmark,
- 2) Its significant geologic features which include both its outstanding size and unusual slate bedrock,

- 3) Its recognition as one of the five most scenic areas in the State
- 4) Its historical significance as an obstacle for log drives of the past.

For further information, see Dr. Thomas Brewer's planning reports on Waterfalls and Gorges.

- 7. Date Registration Becomes Effective - September 7, 1979

REGISTER OF CRITICAL AREAS



Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name The Hermitage Old Growth White Pine Stand
2. Critical Area Number 243
3. Location
 - A. Piscataquis County
 - B. (Town) T7 R10 (East Bowdoin College Grant)
 - C. Minor Civil Division Code Number - 21867 U
 - D. Latitude 45° 28' 46" Longitude 69° 17' 30"
 - E. U.S.G.S. Quadrangle: Sebec Lake 15' Maine 1950

4. Owner's Name and Address

The Nature Conservancy
335 Water Street
Augusta, Maine 04330
Attn: John Jensen, Executive Director

5. Boundaries and Size of the Area

The critical area occupies the southwest corner of "The Hermitage," located on the northerly side of the West Branch of Pleasant River, westerly of the mouth of Hay Brook, and is bounded as follows:

Beginning at the southwest corner of The Hermitage, at a point on the northerly side of the river marked by a stake and stones; thence N20°E (magnetic), following the boundary line of The Hermitage, a distance of 106 meters (350'); then turning due east and running 183 meters (600'); thence turning due south and running 137 meters (450'), more or less, to the northerly bank of said river; thence westerly along said river to the point of beginning.

The critical area covers approximately 1.9 hectares (4.8 acres).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

"The Hermitage" Old-growth white pine (Pinus Strobus) stand is one of a few significant white pine stands in the state. High quality old-growth white pine stands in Maine are outstanding natural features in that they represent the remnants of the extensive pine forests which shaped Maine's early history, forests which had developed over the centuries

and which, since colonization, have been almost entirely eradicated. They are, furthermore, scientifically significant, illustrating important points of forest ecology, such as mechanisms of forest establishment and development, the effects of site factors on stand growth, and forest successional patterns.

The pines are located on well drained moraine soil, and are an excellent example of white pine in association with northern hardwoods, one of the several types of communities in which it is found. The even-aged pines stand approximately 120' and create a uniform canopy. The trunks are large and widely spaced, several individuals reaching 36" d.b.h. (diameter at breast height). Beneath the pines is a developing subcanopy of northern hardwoods, mostly beech (Fagus grandifolia) and sugar maple (Acer saccharum), with some hemlock (Tsuga canadensis) as well. These trees are fairly large (up to 10" d.b.h.) and reproducing vigorously. The pines, which have stopped reproducing, will gradually die out and be replaced by these other species, and eventually (perhaps in 150 years) the area will be a northern hardwood forest.

White pine stands of this quality are rare throughout the tree's range and especially this far north. Because of the outstanding caliber of the pine stand, The Hermitage was recognized as a National Natural Landmark in May 1977.

The Hermitage old-growth white pine stand is included on the Register of Critical Areas because it is an excellent example of old growth white pine, which is an increasingly rare and noteworthy feature both in Maine and throughout the tree's range.

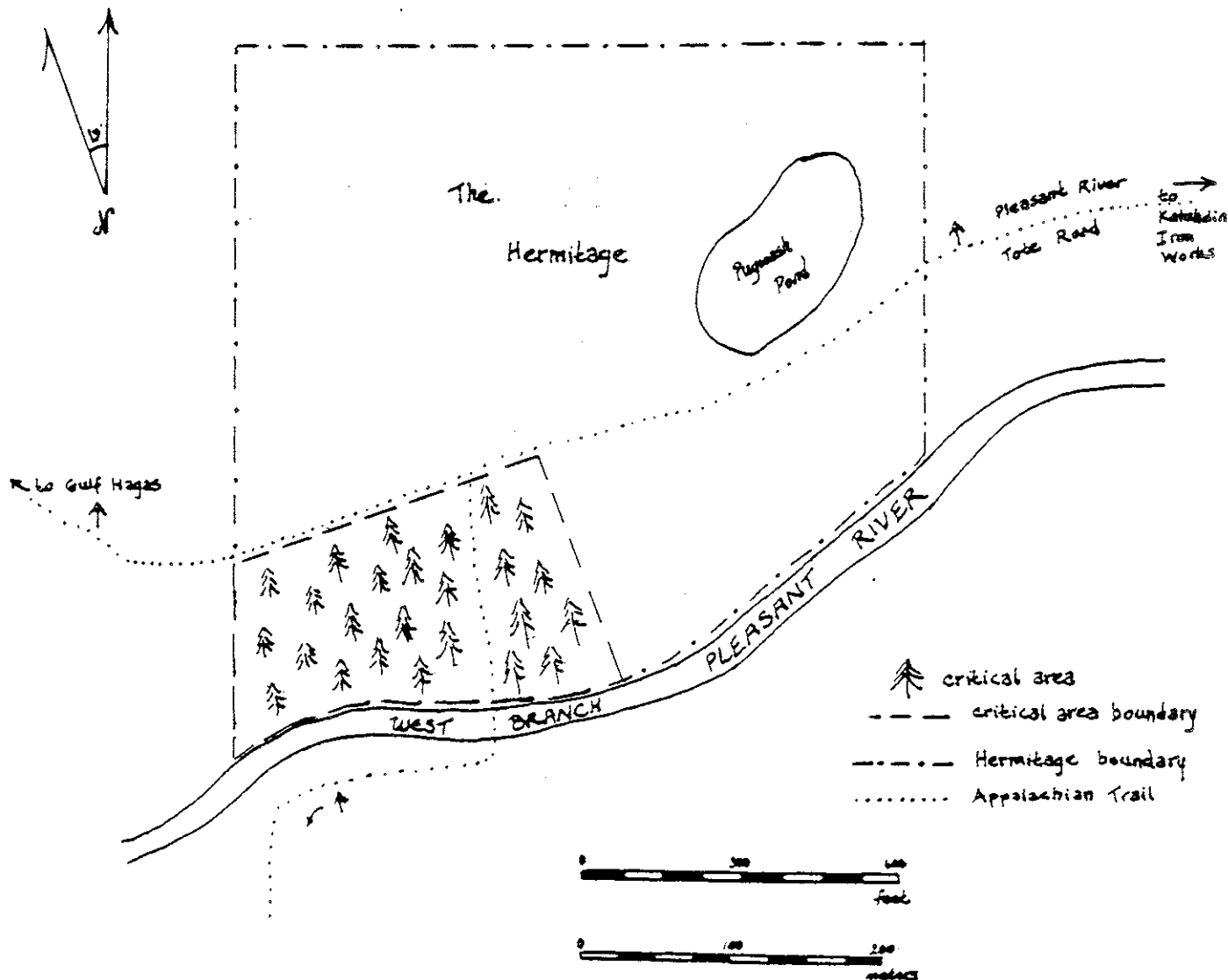
7. Date Registration Becomes Effective April 20, 1979

"THE HERMITAGE"

CRITICAL AREAS PROGRAM

Old-Growth White Pine Stand

Piscataquis County
TT R10



January 1979

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name West Chairback Pond Falls

2. Critical Area Number 328

3. Location

A. Piscataquis County

B. T7, R9 NWP

C. Minor Civil Division Code Number - 218 65 V

D. Latitude 45° 27' 10" Longitude 69° 17' 20"

E. U.S.G.S. Quadrangle - Sebec Lake 15" 1950

4. Owner's Name and Address

Mr. Robert D. Cope
Regional Timberlands Manager
St. Regis Paper Company
Main Street
Bucksport, Maine 04416

5. Boundaries and Size of the Area

The critical area is located on the mountain stream which flows northward from West Chairback Pond in the T7, R9 NWP township of Piscataquis County.

The site begins 400 meters (1312 feet) downstream from West Chairback Pond, runs for a distance of 100 meters (328 feet) and ends 20 meters (65.6 feet) south of where the stream empties into a small unidentified pond. The site includes a setback of 50 meters (164 feet) from the thread of the stream.

The critical area includes a total area of approximately 1 hectare (2.47 acres).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

West Chairback Pond Falls consists of two major drops, each developed on a different rock type and together having a total drop of 18 meters (59.4 feet) over a distance of 100 meters (328 feet).

One hundred meters (328 feet) in length, this tumultuous mountain stream begins 400 meters (1312 feet) downstream from West Chairback Pond (probably a tarn lake) and ends 20 meters (65.6 feet) south of where the stream empties into a small unidentified pond.

The southern half of the falls is developed on bedrock joints forming a section of ledge drops and having a total drop of 6 meters (20 feet). The northern half of the falls is developed on talus and outcrop for a total drop of 12 meters (39.4 feet).

Characterized by varieties of medium-grade metamorphics, this falls lies in the contact zone of a medium-sized granite body (possibly granodiorite) which is exposed a short distance to the south at Chairback Pond. Some well-displayed folding occurs at the falls site.

Flow has been estimated at $.028\text{m}^3/\text{sec.}$ ($1\text{ ft.}^3/\text{sec.}$), however, this estimate was made during an exceptionally low flow period in all streams in Maine (August 12, 1978). Flow is obviously much higher in the spring, with streams of this sort expected to show a considerable seasonal variability. Water quality is clear and odorless.

West Chairback Pond Falls offers an attractive spot to stop along the Appalachian Trail which crosses the stream at the site's midpoint. Naturalness of the area is excellent with evidence of deer, moose, and bear nearby. Trash from the trail is not yet a problem.

This waterfall site is one of significant waterfalls in Maine and is one of only in Piscataquis County.

West Chairback Pond falls is included on the Critical Areas Register for the following reasons:

- 1) Its geologic attributes being: a. development of the falls on both bedrock joints and talus, b. its location in a contact zone, c. its well-displayed folding.
- 2) Its high scenic and natural values including the recognition of West Chairback Pond stream as being probably the most typical example of a mountain stream yet recommended for evaluation.

For further information, see the field notes and planning report on Waterfalls by Dr. Thomas Brewer.

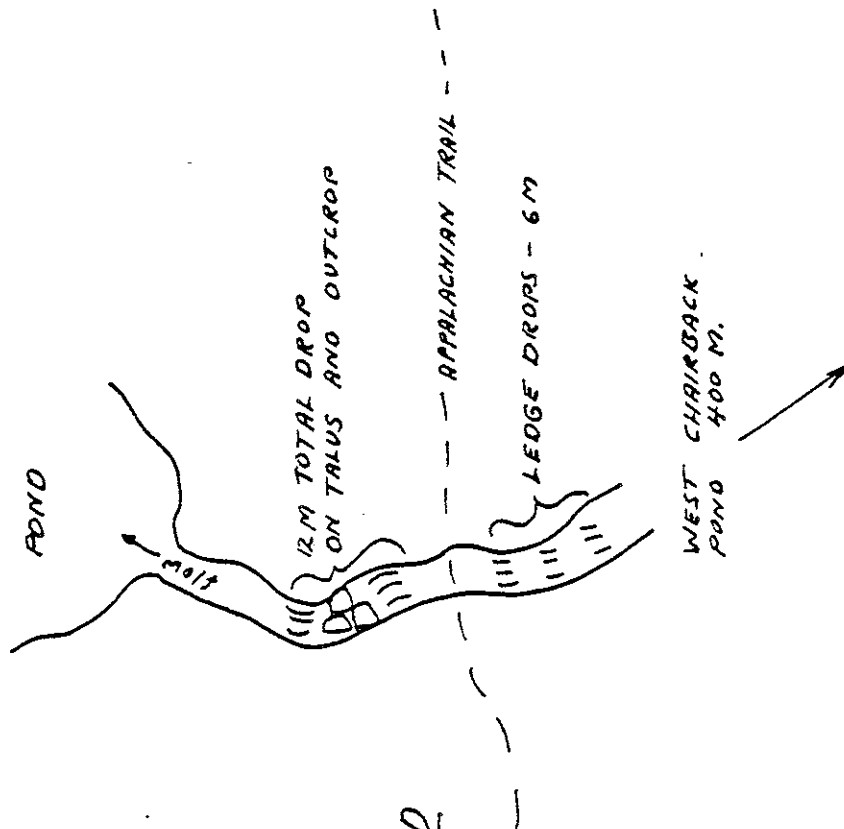
7. Date Registration Becomes Effective

September 15, 1980



WEST CHAIRBACK POND

FALLS



0 10 20 30
METERS

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Little Wilson Stream Falls and Gorge

2. Critical Area Number 227

3. Location

A. Piscataquis County

B. Town of Ellitsville

C. Minor Civil Division Code Number - 21080

D. U.S.G.S. Quadrangle - Sebec Lake 15" Maine 1940

E. Latitude 45° 22' 40" Longitude 69° 27' "

4. Owner's Name and Address

Prentiss and Carlisle Co. Inc.

107 Court Street

Bangor, ME 04401

State of Maine

Department of Conservation

Bureau of Parks and Recreation

5. Boundaries and Size of the Area

Little Wilson Falls is on Little Wilson Stream located in Ellitsville Township about 2.3 kilometers upstream from where Little Wilson Stream meets Big Wilson Stream.

The northern boundary begins 600 meters (1968 feet) down the thread of the stream from the center of the highest point on the lip of the main falls (13 meters - see map) and extends 50 meters (164 feet) to the east and to the west perpendicularly from the stream's banks. The western boundary begins at the western edge of the northern boundary and runs parallel to the stream for approximately 700 meters (2296 feet) in a southerly direction. The southern boundary begins 100 meters (328 feet) up the thread of the stream from the center of the highest point on the lip of the main falls (13 meters--see map) and extends 50 meters (164 feet) to the east and 50 meters (164 feet) to the west, meeting the western boundary. The eastern boundary begins at the eastern edge of the southern boundary and runs parallel to the stream in a northerly direction for approximately 700 meters (2296 feet), meeting the northern boundary.

The total area of the critical area is 7 hectares (17.3 acres).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Little Wilson Falls is one of the highest falls in the State with a main drop of 13 meters (42.6 feet) and several smaller drops of 2-3 meters (6.6-9.8 feet). Below the Falls there is a 300 meter (984 feet) long gorge with verticle, 20-30 meter (65.6-98.4 feet) walls.

The summer season flow of Little Wilson Stream is estimated to be 0.5 ft.³/sec. but bank debris indicates considerably higher spring flow. The water color is slightly brown with no odor.

The bedrock of the area is slate with nearly verticle primary cleavage. The reason for the development of the large falls and adjacent gorge is not clear since the axis of the gorge and position of the falls does not correspond to any rock structures. There is some evidence that the gorge axis corresponds to a fault although no slickensides or dragfolds are evident. The geology at the site is complex and worthy of further scientific investigation.

The area surrounding the Falls is covered with mixed fir and is nearly all natural. The area is frequently visited and several trails exist around the Falls leading to spectacular vista points. The large drop of the Falls and the juxtaposition of the gorge in its natural setting make this a scenically spectacular site.

A few large sawn logs occur in the gorge and suggest a former log driving spot giving the area historical significance.

Little Wilson Falls is one of ten significant waterfalls in the Penobscot River Basin and is one of thirty-six waterfalls which have met the criteria for inclusion on the Critical Areas Register as determined by Dr. Thomas Brewer during his 1977-1978 study.

The reasons for inclusion of the Little Wilson Falls area on the Critical Areas Register are 1) the complexness of the geology of the area, 2) the naturalness of the area, 3) the outstanding scenic value of the area, and 4) historical significance of the site.

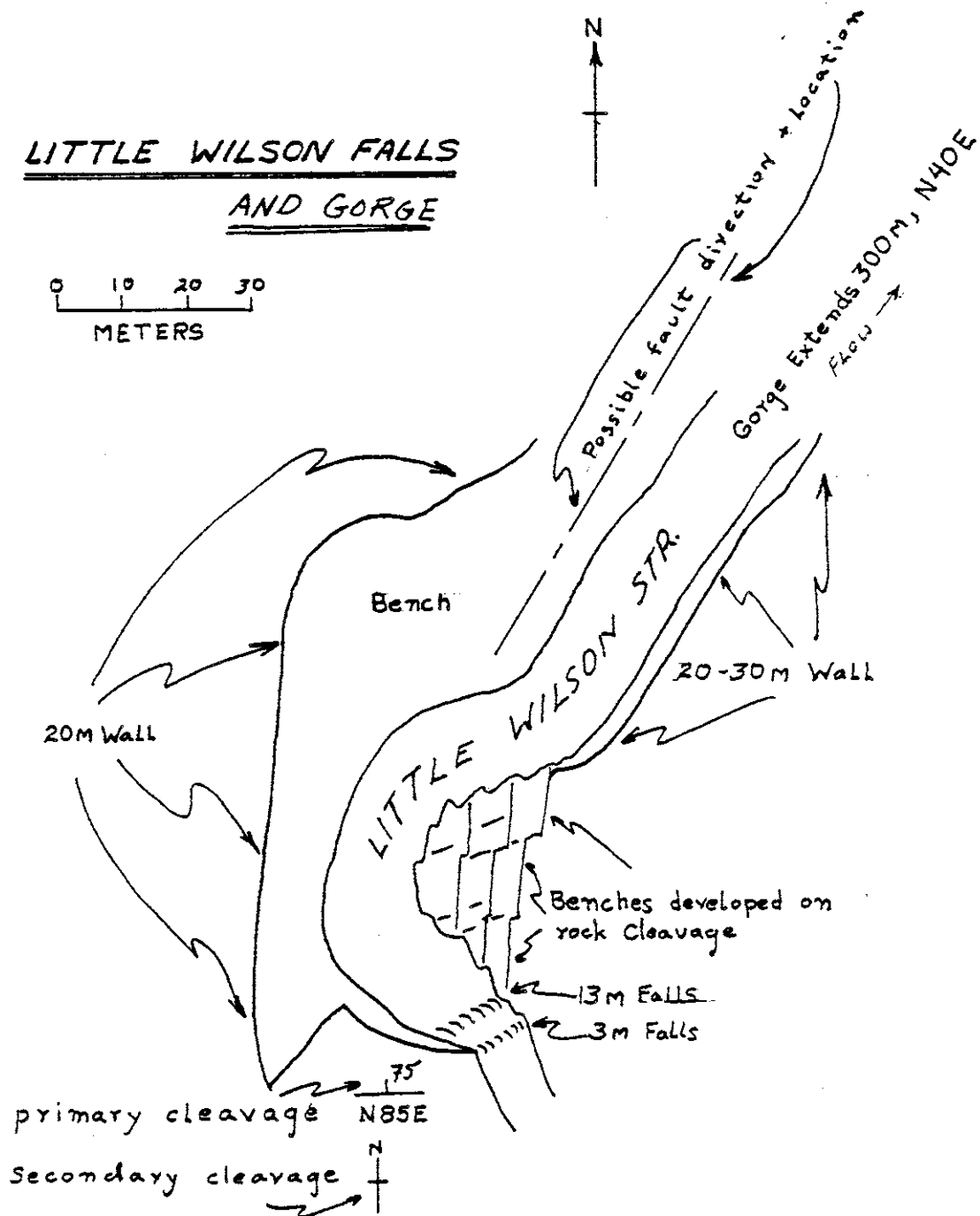
For further information see the planning report, Waterfalls in Maine and Their Relevance to the Critical Areas Program of the State Planning Office, by Dr. Thomas Brewer.

7. Date Registration Becomes Effective

February 5, 1979

LITTLE WILSON FALLS AND GORGE

0 10 20 30
METERS



Total Drop: 30m including
gorge

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Stratton Brook Esker Segment

2. Critical Area Number 310

3. Location

A. Somerset County

B. Wyman (T4 R3 BKP WKR)

C. Minor Civil Division Code Number - 29310

D. Latitude: 45° 06' 45" Longitude: 70° 17' 00" to 70° 23'

E. U.S.G.S. Quadrangle: Stratton, Maine 15' quad (1956)

4. Owner's Name and Address

David C. Semonite, V.P.

J.M. Huber Corporation

P.O. Box 7148 Downtown Station

Portland, Maine 04112

5. Boundaries and Size of the Area

The critical area includes a 6.5 km. (4 mi.) long section of the 10 km. (6 mi.) long Stratton Brook Valley Esker.

The southern boundary begins along the Fire Wardens Trail, approximately 530 m. (1,750 ft.) north of Route 16/27. It continues in an eastward direction; first set back 3 m. north of the Warden Trail, and then, as the Warden Trail climbs onto a segment of the esker, the southern boundary follows along the base of the gravel deposit until the esker intersects Stratton Brook. The southern boundary continues after a short gap, to follow along the base of the esker ridge, until it meets the Wyman-Dead River town line. The town line forms the eastern boundary and is about 65 m. (200 ft.) long. The northern boundary begins at the northern base of the esker ridge, and continues in a westerly direction, crossing Stratton Brook and extending between gaps of the esker deposit, for a total of 6.5 km. (4 mi.). At this point, which is at the north-western end of the esker segment directly west of the Fire Wardens Trail, the western boundary begins and extends in a south-westerly direction for 65 m. (200 ft.). It then turns in an easterly direction and follows the base of the esker segment until it meets the Fire Wardens Trail.

This includes approximately 42 hectares (105 acres.).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Esker systems of Maine are exceptionally well-developed and numerous, in contrast to other glaciated areas of the United States. These long, sinuous ridges of sand and gravel were deposited between 12,700 and 13,300 years ago by meltwater streams within or beneath stagnant glacial ice. As the confining ice walls of the channels melted, ridges of sorted and occasionally stratified coarse sediments were left behind as conspicuous reminders of the last ice age. In Maine, these landforms are commonly referred to as "horsebacks" or "whalesbacks" and often provide high, dry routes through peatlands and swampy lowlands.

They are significant geologic features for they provide information on glacial processes and history in a number of ways. First, esker formation requires meltwater at or near the base of the glacier, which indicates the climatic conditions and thermal characteristics of the glacier at the time of deposition. Second, the trend of the eskers, as well as their internal sedimentary characteristics helps define the direction of the surface slope of the glacier and on the overall geography of the glacier margin. The orientation of the eskers is generally parallel to the flow direction of the glacier, and towards and perpendicular to the retreating ice front. Third, eskers were deposited both above and below the late glacial sea level. Due to the weight of the overlying ice, the earth's crust was depressed enough to allow the sea to flood Maine's coastline as far inland as East Millinocket on the Penobscot River and Bingham on the Kennebec River. Eskers deposited below this upper marine limit, within reach of the invading sea, have marine sediments incorporated into the esker gravels and sands. Radio carbon dates on the fossils found in the marine sediments provides valuable information on the time of marine submergence and deglaciation.

Dr. Harold W. Borns Jr., Director of the Institute of Quaternary Studies, University of Maine at Orono, conducted a comprehensive statewide inventory to identify significant esker deposits in Maine. Out of an estimated total 2,300 km. (1,400 miles) of eskers and esker systems found throughout the state, Dr. Borns recommends only approximately 30 km. (18 miles) of esker segments for critical area status. These esker segments were selected for their overall physical characteristics, accessibility, scientific significance, and naturalness. Although eskers are relatively abundant statewide, segments that meet the established criteria are uncommon. The economic demands for sand and gravel over the past 60 years has caused the removal of greater than 25% of Maine's eskers--especially those near cities and towns. Excavation of portions of eskers is actually congruent with the research needs of geologists studying eskers. However, in order for these land forms to persist, a few of the most exemplary, unaltered segments should be preserved for scientific and educational purposes.

The Stratton Brook Esker is one esker locality listed by Dr. Borns. Located in the Town of Wyman (T4 R3 BKP WKR), it is actually a tributary esker of the great 370 km. long Kennebec Valley Esker System. This branch becomes discernable in the Chain of Ponds area near Coburn Gore, and can be traced through Eustis and Stratton, whence it becomes a massive 10 km. long gravel and sand ridge that trends east-west through the valley of Stratton Brook. The esker appears as a steep, clearly-defined ridge for about 3 km. along the north shoulder of Route 16/27. The highway then veers to the south, and from this point eastward for 6.5 km, the ridge is accessible via the fire warden trail into the Bigelow Preserve. It gradually diminishes and terminates just after crossing into the Dead River Township.

The western portion of this esker (along route 16/27 and south of the Bigelow Range) has been extensively mined. Numerous gravel pits display with exceptional clarity the internal structure and composition of this type of glacial deposit; as well as give some indication of the size of this enormous esker.

In contrast the eastern portion of the esker is almost totally undisturbed and is being evaluated for inclusion on the Register. This portion was deposited in segments rather than as one continuous ridge. Many of the segments remain in much the same state they were in after they were deposited from the ice--no roads, houses or gravel pits interrupt the glacial sediments. Although the Fire warden trail follows along the top of a few of the segments, it has only slightly affected the original form of the esker.

At the present time, the southern boundary of the Bigelow Preserve is defined by Stratton Brook, which means that only the segments east and north of the brook and Stratton Brook Pond are within the Preserve.

The formation of Stratton Brook Pond, the esker, and the drainage pattern in this valley are all related to the way the glacier retreated from this basin.

Vegetation on the steep ridge slopes includes hemlock, balsam fir, yew, cedar, white birch, quaking aspen, red maple, red and white spruce, red and white pine and many more plant species found in association with northern mixed hardwood and spruce-fir forests.

The Stratton Brook Esker Segment constitutes a 6.5 km. long portion of the entire 10 km. long Stratton Brook Valley Esker. It is recommended for inclusion on the Register of Critical Areas for the following reasons:

- 1) Its geological attributes including:
 - a) it is one of the best-formed, most prominent esker segments in the state
 - b) it illustrates the effect of local relief (in this case, the Bigelow Mountain Range) on the way the glacier retreated from certain areas in Maine. Most eskers and esker systems trend roughly NNW-SSE, but this one trends almost directly east-west, reflecting the topography of the region.
- 2) Its accessibility.
- 3) Its natural, undisturbed condition.
- 4) It is crossed by the Appalachian Trail.
- 5) 2.8 km. of the esker is located within the Bigelow Preserve.
- 6) Its educational value. This portion of the esker used in conjunction with the mined areas along Route 16,27 would provide a wonderful opportunity to view both the external and internal morphological characteristics of an esker deposit.

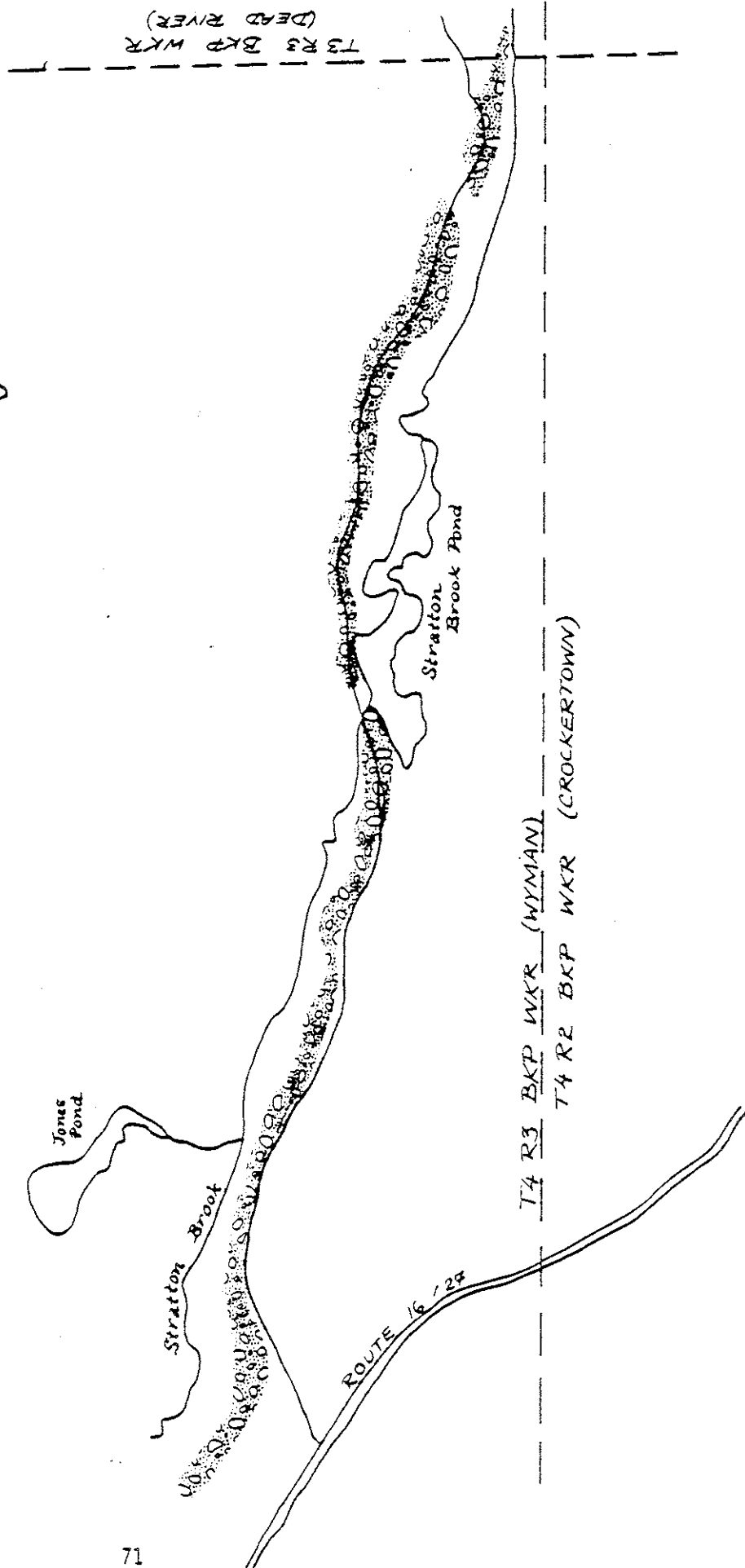
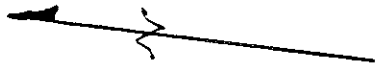
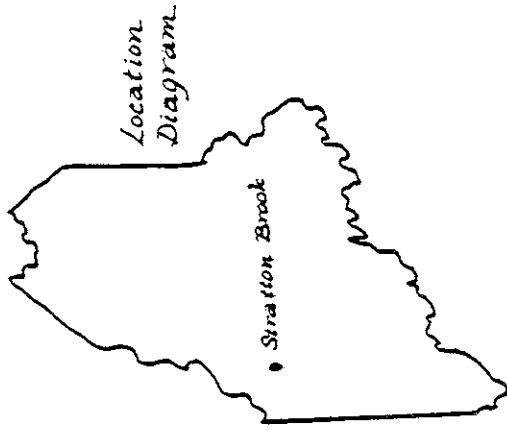
For further information on eskers and esker systems, see the planning report on eskers by Dr. Harold W. Boms, and Dr. Woodrow Thompson's "Surficial Geology Handbook for Coastal Maine," prepared by the State Planning Office for the Maine Geological Survey.

STRATTON BROOK ESKER SEGMENT

T4 R3 BKP WKR (WYMAN)

FRANKLIN CO.

CRITICAL AREA



August 11, 1977

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 184 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Bigelow Mountain Arctic-Alpine Vascular Vegetation Community

2. Critical Area Number 245

3. Location

A. Somerset County

B. Town of Dead River, T.3R.3. B.K.D. W.K.R.

C. Minor Civil Division Code Number - 07060

D. Latitude 45° 9' N" Longitude 70° 16' W"

E. U.S.G.S. Quadrangle: Stratton, Maine 15' 1956

4. Categories of Critical Areas Into Which the Area Falls

A. Area of significance to the natural sciences

B. Ecologically sensitive area

C. Important habitat

5. Owner's Name and Address

State of Maine
Bureau of Public Lands
Ray Building
Augusta, Maine 04333

Att: Mr. Lee Shepps, Director

State of Maine
Dept. of Conservation
Bureau of Parks & Recreation
Ray Building
Augusta, Maine 04333

Att: Mr. Herbert Hartman, Director

6. Boundaries and Size of the Area

The critical area includes that portion of Bigelow Mountain above 1119 meters (3700 feet). Arctic-alpine communities occur over an estimated area of 25 hectares or 61.75 acres.

7. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on Register

The Bigelow Range in southwestern Somerset County forms a windswept ridge which runs east/west for a distance of approximately 2.3 Kilometers (1.4 miles). Two of the peaks are treeless, Avery Peak and West Peak, rising to elevations of 1246 meters (4120 feet) and 1265 meters (4150 feet) respectively. The peaks are composed of dark grey slate, meta sandstone, calcium-silicate gneiss, and granulite.

Alpine tundra plant communities grow on the treeless areas of Avery Peak and West Peak. A 1976 survey identified 12 species of arctic-alpine distribution occurring over an area of 25 hectares (61.75 acres). Avery Peak is rocky and dry, and arctic-alpine vegetation occurs in the leeward side of large boulders, in moist depressions, and in disturbed areas near the abandoned fire tower and along the trails. Dwarf shrub heath communities are the dominant vegetation type, characterized by Low Sweet Blueberry (Vaccinium angustifolium), Alpine Bilberry (V. uliginosum), Labrador Tea (Ledum groenlandicum), Bigelow's Sedge (Carex bigelowii), and Highland Rush (Juncus trifidus). A spruce-fir forest is interspersed with the tundra vegetation.

The treeless area on West Peak is smaller than that on Avery Peak. Arctic-alpine vegetation occurs along the hiking trail, which has a bare gravelly substrate as a result of disturbance. Mountain Sandwort (Arenaria groenlandica) is dominant in dry, disturbed areas along the trail, whereas Highland Rush is dominant in moist soil depressions and adjacent to large rocks.

The relatively small number of arctic-alpine species growing on Bigelow Mountain is a direct result of the limited suitable habitat. Treeless areas on Avery Peak and West Peak total only 25 hectares (62.5 acres). Although the species represented on Bigelow Mountain are fairly common arctic-alpine species, they are nonetheless unusual in Maine. Two of the species, the Highland Rush and the Mountain Sandwort, are, in fact, considered rare in Maine. Both are limited to alpine areas of the State; the sandwort has been reported from 14 areas, and the rush from 6.

During the summer of 1978, L.M. Eastman, a botanist at Maine Audubon Society, discovered the very rare plant Prenanthes boottii on the ledges at West Peak. This plant, a member of the Composite family (Asteraceae) is one of 17 Maine plant species listed as "threatened" by the Smithsonian Institution in its 1978 report to the U.S. Congress. Its distribution is limited to a few locations in northern New York and New England. In Maine, it is known to occur only at this site and on Mt. Katahdin, although it has in the past been found at one other location.

Arctic-alpine plant communities are uncommon in Maine, growing over an estimated 615 hectares (1521 acres). Treeless mountains are unusual in Maine, and the occurrence of arctic-alpine vegetation is uncommon because of the limited high altitude habitat. Furthermore, many plant species of arctic origin reach their southern limit on Maine mountains. The Maine alpine environment is similar to that found in Labrador or Alaska and thus indicates floral affinities with arctic or subarctic environments. The adaptations that arctic-alpine plants have made to their harsh environment further interests botanists and naturalists.

Bigelow Mountain has significant scenic and recreational values and is used heavily by hikers.

The current increase in recreational activities on Maine mountains may threaten fragile arctic-alpine communities. It is important that these unusual areas be identified and preserved.

For further information, see the planning report, Arctic-Alpine Vascular Vegetation on Maine Mountains, by Diane May and Ronald Davis. For information on the rare plant species, see Rare Maine Vascular Plants, by L.M. Eastman, and Botanical Fact Sheets #31, #32, and #33.

8. A Brief Statement Concerning the Type of Management Suggestions For the Area Including Uses Which Would be Compatible with the Values Represented by the Area

It is suggested that the landowner or a designated representative of the landowner may, at his/or her option, institute any or all of the following management suggestions:

- A. Bigelow Mountain should be maintained in a natural condition to perpetuate a suitable and proper habitat for arctic-alpine plant species. Management of the area should be carried out with the advice and approval of botanists knowledgeable with the species.
- B. Bigelow Mountain arctic-alpine communities should be monitored periodically to check on their condition.
- C. Trails should not be constructed through high quality areas.
- D. Motorized vehicles should be prohibited from the arctic-alpine vegetation areas.
- E. The building of structures on arctic-alpine vegetation areas should be discouraged.

9. Programs Which Directly Affect or are Particularly Relevant to the Use and Management of the Area

10. A Brief Statement Concerning Publicity About the Area

Publicity about the critical area should be minimal so that visitors are not attracted to the area. An influx of visitors could pose a threat to the critical area, as well as impose an added burden on the landowner.

11. Date Registration Becomes Effective April 20, 1979

August 31, 1977

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 184 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Saddleback Mountain Arctic-Alpine Vascular Vegetation Community
2. Critical Area Number - 126
3. Location
 - A. Franklin County
 - B. Township of Sandy River Plantation, Madrid, and Redington
 - C. Minor Civil Division Code Number - 07170, 07110, 07819
 - D. Latitude 44° 56' N" Longitude 70° 30' W"
 - E. U.S.G.S. Quadrangle: Rangeley and Phillips, Maine 15' 1949 and 1929
4. Categories of Critical Areas Into Which the Area Falls
 - A. Area of significance to the natural sciences
 - B. Ecologically sensitive area
 - C. Important habitat
5. Owner's Name and Address

Georgia-Pacific Company
Woodland, Maine 04694
Attn: Roger Mitchell, Resource Manager
6. Boundaries and Size of the Area

The critical area includes that portion of Saddleback Mountain above 1066 meters (3500 feet). Arctic-alpine communities occur over an estimated area of 0.83 km.² (0.32 mi.²)

A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Saddleback Mountain in western Franklin County consists of a ridge running southwest/northeast for a distance of approximately 3.5 kilometers (2.2 miles). The Saddleback massif is composed of shale, sandstone, and quartz conglomerate. Two peaks on the mountain reach elevations over 1200 meters (4000 feet), the Fire Tower (1254 meters or 4116 feet) and The Horn (1226 meters or 4023 feet). The corridor between the two peaks is a ridge approximately 2.6 kilometers (1.6 miles) long. The wind swept ridge is dominated by rock slabs and boulder fields. A pond lies on the southwest side of the Fire Tower.

A 1976 survey found 19 species of arctic-alpine distribution growing on the wind-swept ridge of Saddleback Mountain over an estimated area of 83 hectares (207.5 acres). Saddleback Mountain is a relatively dry area, and most species present are adapted to dry, windy microhabitats.

The vegetation occurring on the west end of the ridge forms a mosaic of plant communities of which the dwarf shrub heath is dominant. The characteristic plants in this community are Alpine Bilberry (Vaccinium uliginosum), Labrador Tea (Ledum groenlandicum), and Reindeer Lichens (Cladonia spp.). Dwarf shrub heath communities also occur along the trail, and in areas sedge (Carex) or Rush (Juncus) may also be present. Krummholz intermingles with the dwarf shrub heath communities and often extends up to the crest of the ridge. Diapensia communities provide the dominant plant cover at the Fire Tower. Diapensia (Diapensia lapponica) and Black Crowberry (Empetrum nigrum) characterize this community. A pond is located southwest of the Fire Tower, and arctic-alpine species occur along its margin.

The col between the Fire Tower and The Horn is dominated by krummholz and subalpine spruce-fir forests, although arctic-alpine communities also occur. Dwarf shrub heath is the common arctic-alpine vegetation type in this area. The patches of arctic-alpine species vary according to the microenvironment. For example, Hare's Tail (Eriophorum spissum) and Sphagnum moss occur in wet depressions; Mountain Sandwort (Arenaria groenlandicum) and Diapensia (Diapensia lapponica) are present in trampled, exposed, well drained microsites. Baked-apple Berry (Rubus chamaemorus), a species of limited distribution in Maine, occurs at a moist site.

The Horn is a treeless peak dominated by a sedge-rush dwarf shrub heath community. This community is characterized by Highland Rush (Juncus trifidus), Alpine Bilberry (Vaccinium uliginosum), Bigelow's Sedge (Carex bigelowii), and Reindeer Lichens (Cladonia spp.)

Saddleback Mountain ranks third to Mount Katahdin and Goose Eye Mountain in the number of arctic-alpine species occurring on Maine mountains. At least 34 species of arctic-alpine distribution are found on Maine mountains, 19 of which are known to occur on Saddleback Mountain. Arctic-alpine plant communities are uncommon in Maine, growing over an estimated 615 hectares (1,524 acres). Treeless mountains are unusual in Maine, and the occurrence of arctic-alpine vegetation is uncommon because of the limited high altitude habitat. Furthermore, many plant species of arctic origin reach their southern limit on Maine mountains. The Maine alpine environment is similar to that found in Labrador or Alaska and thus indicates floral affinities with arctic or subarctic environments. The adaptations that arctic-alpine plants have made to their harsh environment further interests botanists and naturalists.

Saddleback Mountain has significant scenic and recreational values and is used moderately by hikers and skiers. The current increase in recreational activities on Maine mountains may threaten fragile arctic-alpine communities. It is important that these unusual areas be identified and preserved. For further information see the planning report, Arctic-Alpine Vascular Vegetation on Maine Mountains, by Diane May and Ronald Davis.

Register of Critical Areas - Saddleback Mtn. Arctic-alpine Vascular Vegetation Community

8. A Brief Statement Concerning the Type of Management Suggestions For the Area Including Uses Which Would be Compatible with the Values Represented by the Area

It is suggested that the landowner or a designated representative of the landowner may, at his/or her option, institute any or all of the following management suggestions:

- A. Saddleback Mountain should be maintained in a natural condition to perpetuate a suitable and proper habitat for arctic-alpine plant species. Management of the area should be carried out with the advice and approval of botanists knowledgeable with the species.
- B. Saddleback Mountain arctic-alpine communities should be monitored periodically to check on their condition .
- C. Trails should not be constructed through high quality areas.
- D. Motorized vehicles should be prohibited from the arctic-alpine vegetation areas.
- E. The building of structures on arctic-alpine vegetation areas should be discouraged.

9. Programs Which Directly Affect or are Particularly Relevant to the Use and Management of the Area

The Land Use Regulation Commission has zoned Saddleback Mountain as a recreational district up to 823 meters (2700 feet). Above this elevation the mountain is zoned as a mountain area.

10. A Brief Statement Concerning Publicity About the Area

Publicity about the critical area should be minimal so that visitors are not attracted to the area. An influx of visitors could pose a threat to the critical area, as well as impose an added burden on the landowner.

11. Date Registration Becomes Effective

27 January 1978

drafted: May 18, 1979

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Dunn Falls
2. Critical Area Number 322
3. Location

- A. Oxford County
- B. Andover North Surplus
- C. Minor Civil Division Code Number - 17803 U
- D. Latitude 45° 39' 36" Longitude 70° 54' 03"
- E. U.S.G.S. Quadrangle: Old Speck Mountain 15' (1943)

4. Owner's Name and Address

Mr. Robert W. Hintze
Regional Manager, Land and Timber, North East
International Paper Company
Woodlands Division
Augusta, ME 04330

5. Boundaries and Size of the Area

Dunn Fall critical area occurs on an eastern tributary to the Ellis River in Dunn Notch. It is located in Andover North Surplus of Oxford County.

The western boundary of the critical area begins 100 meters (328 feet) upstream from the confluence of the major stream and a tributary entering from the southwest, and runs perpendicular to the thread of the stream in both a northerly and southerly direction for about 50 meters (164 feet). The northern boundary begins at the northern end of the western boundary and runs downstream in an easterly direction for approximately 0.8 kilometer (0.5 mile), parallel to and set back 50 meters (164 feet) from the thread of the stream. The eastern boundary begins at the eastern end of the northern boundary and runs perpendicular to the thread of the stream for 100 meters (328 feet). The southern boundary begins at the southern end of the eastern boundary and runs upstream in a westerly direction for about 0.8 kilometer (0.5 mile), parallel to and set back 50 meters (164 feet) from the thread of the stream, or until it reaches the western boundary.

The Critical Area includes a total area of about 80,000 square meters (8 hectares or 19.8 acres).

Description

Dunn Falls in Dunn Notch is a spectacular waterfall located in Andover North Surplus of Oxford County. The site is one of significant falls found in the Androscoggin River Drainage Basin and is noted primarily for its two large vertical drops of over 50 feet each.

Beginning at the western end of the critical area and progressing in a downstream direction, the falls can be described as follows:

The first waterfall is nearly vertical and drops between 15.2 and 18.3 meters (50-60 feet) over a distance of about 3 meters (10 feet). The stream is approximately 1.8-3 meters (6-10 feet) wide at this point. A tributary to the main stream meets the falls about 1.5 meters (5 feet) above its base where it drops into a large pool.

The first falls is followed by a short cascade dropping about 1.2 meters (4 feet) over a 1.5 meter (5 foot) distance along the stream. From here, the stream meanders over large boulders and between high cliffs until it reaches a chute which drops about 4.6 meter (15 feet) into a small pool. The stream bends northward and then plunges approximately 26 meters (85 feet) in a nearly vertical drop to a pool at the bottom. The stream of water over the falls is only 1-2 meters (306 feet) wide. 61-92 meter (200-300 foot) cliffs occur on the north bank. The south side of the stream has steep banks of moss covered boulders up to a small trail.

Mixed spruce, fir, yellow birch and mountain maple characterize the surrounding area.

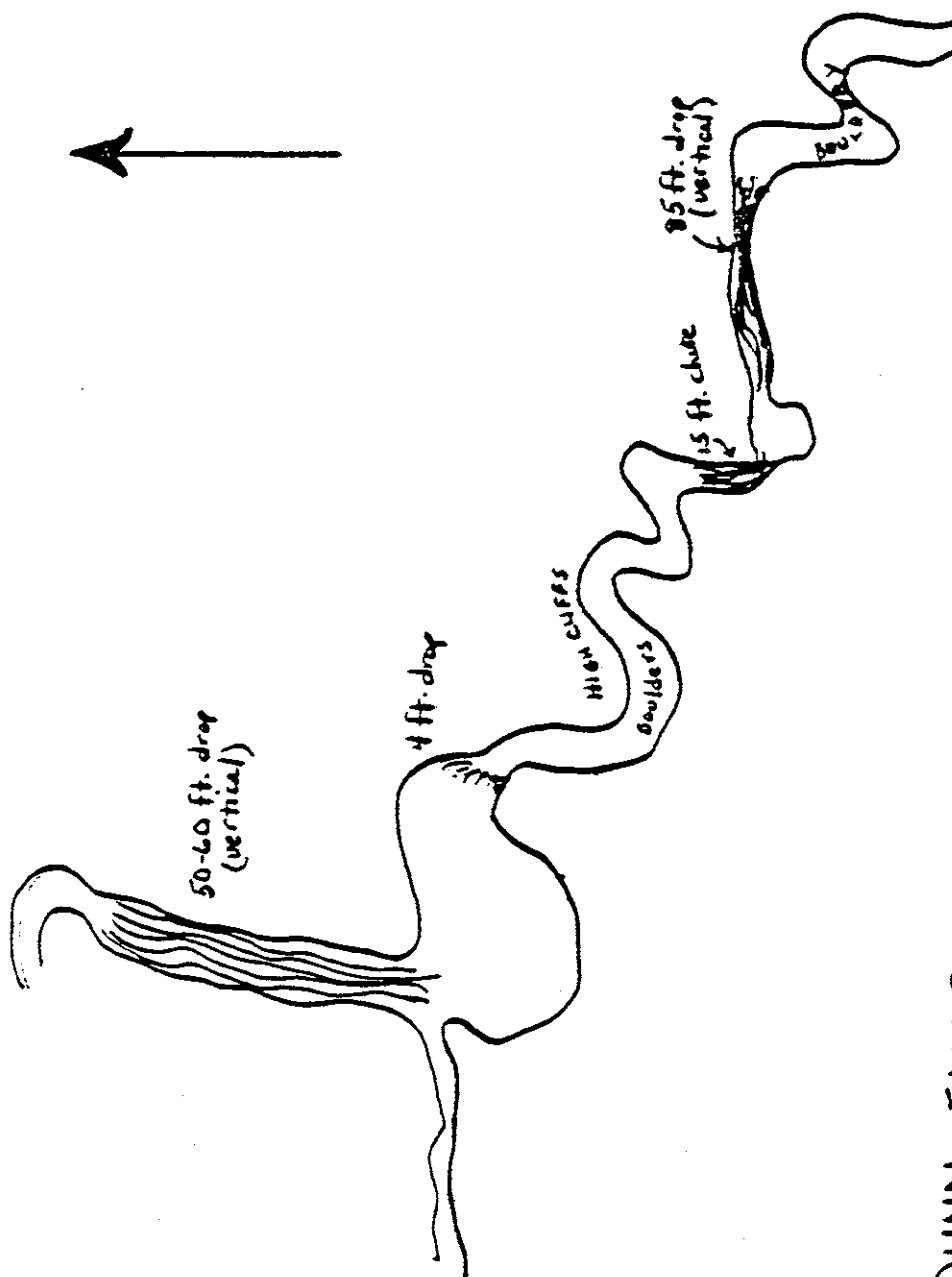
Of biological significance is the occurrence of the Fragrant Cliff-fem, Dryopteris fragrans (L.) which was identified by A.S. Pease in September 1937. The fem grows on the cliffs in Dunn Notch.

Lending historical significance to the site is an old unused road along the south bank of the stream, probably linked to the log driving which was done here at one time.

The trails along the stream are being considered for the relocation of the Appalachian Trail as this area is outstanding in scenic and natural value.

Dunn Falls is one of significant waterfalls in Maine. It is one of only significant falls sites in Oxford County. The primary reasons for including Dunn Falls on the Critical Areas Register are:

1. Its hydrologic attributes including the three vertical drops of 19.8, 4.6 and 26 meters (65, 15 and 85 feet respectively)
2. The biological significance of the occurrence of the Fragrant Cliff-fem growing on the steep cliffs in the Notch
3. The outstanding scenic and natural beauty of the site and
4. The historical significance of the falls as obstructions to log driving.



DUNN FALLS
ANDOVER NORTH SURPLUS
OXFORD COUNTY

(SKETCH NOT DRAWN TO SCALE)

Draft

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 189 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Elephant Mountain Old Growth Red Spruce

2. Critical Area Number

3. Location

A. Franklin County

B. Twp. D

C. Minor Civil Division Code Number - 07805 U

D. Latitude: 44° 46' 00" Longitude: 70° 46' 00"

E. U.S.G.S. Quadrangle: Oquossoc 15', 1940

4. Owner's Name and Address

Boise Cascade Paper Co.

Woodlands Dept.

Rumford, Maine 04276

Attn: Sumner Burgess

5. Boundaries and Size of the Area

The critical area is centered about the junction of the Appalachian Trail and the Clearwater Brook Trail, south of Elephant Mountain. From this junction, the critical area extends approximately 700 feet north, and 1000 feet south along the Appalachian Trail.

The boundary of the critical area is as follows (all bearings are magnetic): beginning from the intersection of the Clearwater Brook Trail and the town line for Township D and Township C, the boundary extends 1450 feet (480 m) at a bearing of N50°E. The boundary then runs a distance of 660 feet (220 m) at a bearing of S30°E, crossing the Appalachian Trail. From here, the boundary runs at a bearing of S60°W for a distance of 1214 feet (403 m). Next, the boundary follows a bearing of due south for a distance of ½ mile (0.4 km). At this point, the boundary turns N85°W for 790 feet (263 m), until reaching the township line. The boundary then follows this township line N18°E for ½ mile until reaching the Clearwater Brook Trail.

The critical area covers approximately 30 acres (12 hectares).

6. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

An uncut stand containing old growth red spruce (Picea rubens) grows in the saddle between Elephant Mountain and Old Blue Mountain, along the Appalachian Trail near South Arm. Some of the spruce in this balsam fir (Abies balsamea) stand are over 300 years old and have a diameter larger than 21 inches at breast height.

The old growth red spruce are found on either side of the Appalachian Trail, near the junction of the Clearwater Brook Trail. From this junction, the trees extend 700 feet north and 1000 feet south along the Appalachian Trail. Elevation is between 2880 and 3000 feet.

Natural old growth forest stands are rare features in Maine and the Eastern United States. Because these ecosystems have undergone centuries of development, they possess a special value, especially for scientific and educational purposes. From these areas, information on past climate, soil-vegetation relationships, and natural succession can be derived to compare with managed stands. In addition, natural old growth forest stands complete Maine's forest history by serving as examples of forests that settlers may have viewed as they made their way through Maine.

This fir stand is uneven-aged, containing an old growth spruce component and younger age classes of fir and spruce. The oldest spruce is 22 inches at d.b.h. and 284 years old. This is the tree's age at breast height; and estimating the years needed to reach breast height from a seedling would easily place the tree at 310 years or older. Since this diameter is well represented in other trees in the stand, it is assumed that there are other trees in the stand of this age. Increment corings of other trees are listed below.

Increment Corings Taken at D.b.h.

<u>Species</u>	<u>D.b.h.</u>	<u>Age</u>	<u>Height</u>
red spruce	22"	284	75'
red spruce	21"	200+	--
red spruce	19"	141	69'
red spruce	15"	161	66'
red spruce	6"	160	57'
balsam fir	9"	65	45"

The present structure and composition in the stand illustrates the dynamics involved in this climax stand. The structure, revealed through the increment corings and tree height; along with the climax condition controlled by site, species adaptability, and disturbances are two characteristics used to interpret the development in this stand.

Data from increment corings indicates that at least 4 age classes are present in the stand. These are represented by the ages: 280, 160, 140 and 60 years. This data reveals that the stand is uneven-aged because the trees originated at different times. In addition, because the stand has not been harvested and is old, the irregular canopy level present when the stand was young has grown into one main canopy (50 feet). The only trees higher than this are the oldest spruce that are 75 feet tall.

The stand maintains itself as a climax, directed by the site, the species adapted to the site, and the natural disturbances. The protected location between two peaks enables the long-lived red spruce to obtain its large size and old age. The high elevation offers some protection from the spruce budworm, enabling old age to be the major cause of fir mortality as the tree reaches 80 years of age.

Thus, the fir and spruce seedlings, both of which are tolerant of shade, can respond when released from competition with the overstory trees. These seedlings replace the dead trees in these areas by growing into the site. In this way, the stand replenishes itself with new growth in small pockets throughout the stand (uneven-aged condition), instead of the whole stand being replaced at one time by a major disturbance, characteristic of an even-aged stand.

The red spruce average 19 inches d.b.h., and the largest tree is 28 inches d.b.h. The diameter class with the most trees and largest size is 21 inches. Sixteen of the approximately 45 old growth red spruce were measured. Most show signs of old age, having crowns that are dying. However, the boles of all trees bored were found to be solid.

Scattered throughout the stand are rocks and boulders, possibly carried here by glaciers, that contain quartz, biotite and muscovite. These erratics are either granite or quartzite. Surface soils on the site consist of a rich, dark 3 inch organic layer, a $\frac{1}{4}$ " leached, albic horizon, followed by a dark, red spodic horizon. Surface textures are loams.

Regeneration on the site is predominately fir that is one foot high. Red spruce seedlings are also found on the forest floor. A fir seedling was found to be 13 years old, illustrating the ability fir and spruce have to establish themselves and survive for many years in the shade.

Groundplants include: bryophytes oxalis (*Oxalis montana*), Canadian mayflower (*Maianthemum canadense*), blue-bead lily (*Clintonia borealis*), twinflower (*Linnaea borealis*), goldenthrum (*Coptis trifolia*), and shield fern (*Dryopteris* spp.).

The following species are located near two underground streams that surface in the stand: sphagnum moss (*Sphagnum* spp.), whorled aster (*Aster acuminatus*) and starflower (*Trientalis borealis*).

Trees scattered throughout include: white birch (*Betula papyrifera*) and mountain-ash (*Sorbus americana*).

The Critical Areas Program inventoried Natural Old Growth Forest Stands and found that the Elephant Mountain Old Growth Red Spruce met the criteria for inclusion on the Critical Areas Register.

The reasons for inclusion of the Elephant Mountain Old Growth Red Spruce on the Critical Areas Register are:

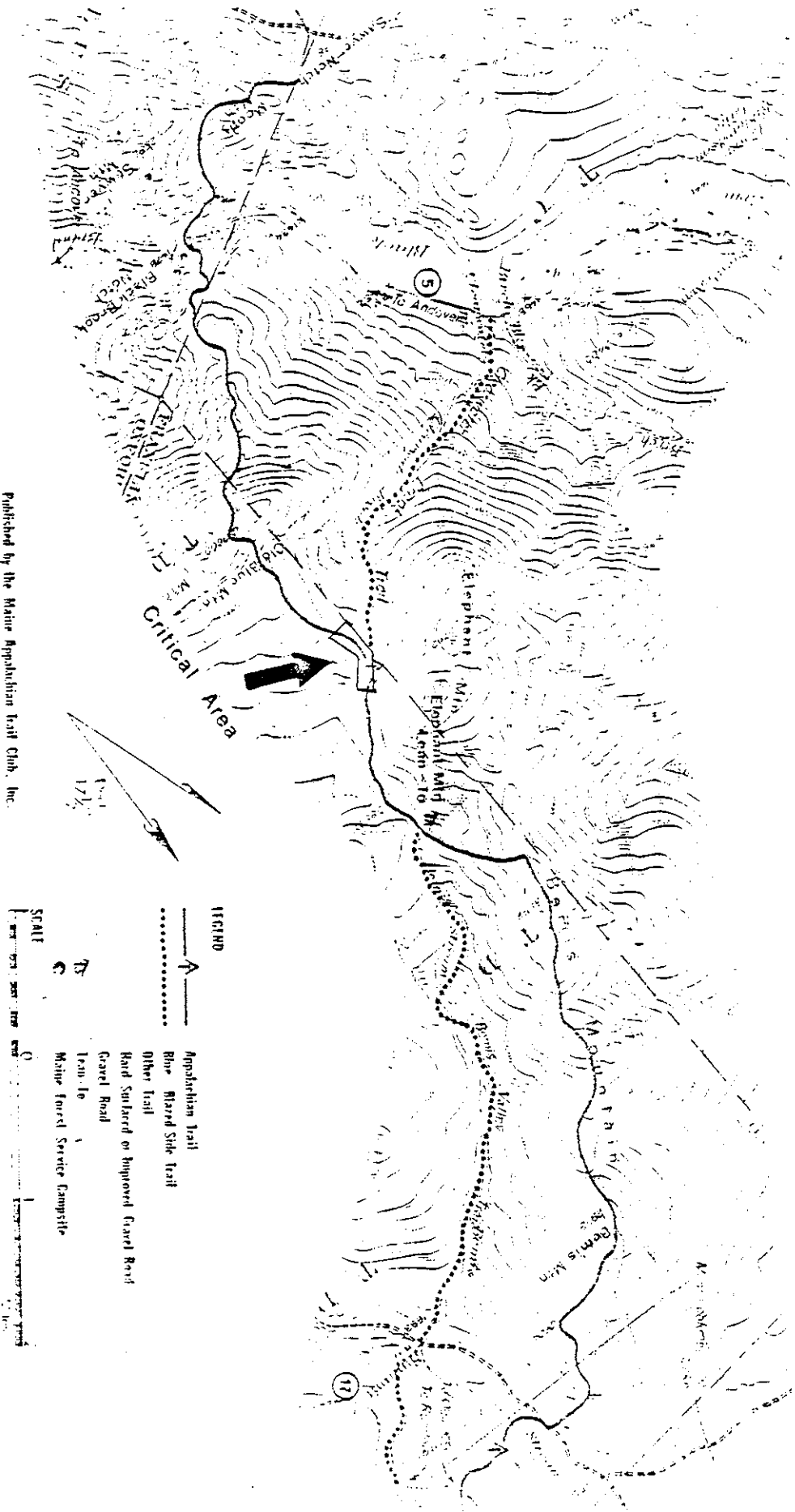
- 1) the stand contain trees 300 years and older,
- 2) the stand has never been harvested,
- 3) the stand contains trees of large diameter at a high elevation.

For further information, see the planning report, Natural Old Growth Forest Stands in Maine and Their Relevance to the Critical Areas Program, by John Grena.

7. Date Registration Becomes Effective

ELEPHANT MOUNTAIN OLD GROWTH RED SPRUCE

register of critical areas



additional reference: OQUOSSOC quad, 15, 1940

August 31, 1977
Updated April 1979

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 184 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name Baldpate Mountain Arctic-Alpine Vascular Vegetation Community
2. Critical Area Number 113
3. Location
 - A. Oxford County
 - B. Grafton Notch
 - C. Minor Civil Division Code Number - 17808
 - D. Latitude 44° 36' N" Longitude 70° 54' W"
 - E. U.S.G.S. Quadrangle: Old Speck Mountain, Maine 15' 1943
4. Categories of Critical Areas Into Which the Area Falls
 - A. Area of significance to the natural sciences
 - B. Ecologically sensitive area
 - C. Important habitat
5. Owner's Name and Address

State of Maine
Department of Conservation
Bureau of Public Lands
Augusta, Maine 04333
6. Boundaries and Size of the Area

The critical area includes that portion of Baldpate Mountain above 1067 meters (3500 feet). Arctic-alpine communities occur over an estimated area of 0.16 km² (0.06 mi.²)

Register of Critical Areas - Baldpate Mtn. Arctic-Alpine Vascular Vegetation Community

7. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Baldpate Mountain lies in western Oxford County, approximately 11.6 kilometers (7.25 miles) east of Grafton Notch in the town of Grafton. The mountain is oriented on a southwest/northeast axis. The massif is composed of dark grey slate, schist, and gneiss. Massive slabs of rock cover the upper ridges of Baldpate; the summit is gravelly and wind-swept. The east peak rises to an elevation of 1,162 meters (3,812 feet).

A 1976 survey identified eleven plant species of Arctic-Alpine distribution growing on Baldpate Mountain over an estimated area of 16 hectares (39.5 acres.) The uppermost ridges of Baldpate are covered by massive rock slabs, and vegetation occurs only in depressions and cracks between rocks where soil has formed. The west peak is a dry, open area dominated by krummholz vegetation of Black Spruce (Picea mariana) and Balsam Fir (Abies balsamea). A dwarf shrub heath community forms the understory. The dominant plants in this community are Pale Laurel (Kalmia polifolia), Alpine Bilberry (Vaccinium uliginosum), and Labrador Tea (Ledum groenlandicum).

The col between the west and east peaks is approximately 90 per cent lichen-covered rock. Two alpine bog communities, dominated by Hare's Tail (Eriophorum spissum) and Sphagnum moss, occur on the col. The south side of the east peak is a rock fall dominated by rock lichens. The summit is gravelly and wind-swept, and a rush dwarf shrub heath community is dominant. The major plants in this community are Highland Rush (Juncus trifidus), Alpine Bilberry (Vaccinium uliginosum), mosses (Polytrichum spp.), lichens (Cladonia spp.), and patches of Mountain Sandwort (Arenaria groenlandicum).

The relatively small number of Arctic-Alpine species present on Baldpate Mountain is a direct result of the limited suitable habitat. Nonetheless, the occurrence of the plants is significant. Arctic-Alpine communities are uncommon in Maine, growing over an estimated 615 hectares (1,524 acres). Treeless mountains are unusual in Maine, and the occurrence of Arctic-Alpine vegetation is uncommon because of the limited high altitude habitat. Furthermore, many plant species of arctic origin reach their southern limit on Maine mountains. The Maine alpine environment is similar to that found in Labrador and Alaska and thus indicates floral affinities with arctic or sub-arctic environments. The adaptations that Arctic-Alpine plants have made to their harsh environment further interests botanists and naturalists.

Baldpate Mountain has significant scenic and recreational values. The current increase in recreational activities on Maine mountains may threaten fragile Arctic-Alpine communities. It is important that these unusual areas be identified and preserved. For further information, see the planning report, Arctic-Alpine Vascular Vegetation on Maine Mountains, by Diane May and Ronald Davis.

Register of Critical Areas - Baldpate Mtn. Arctic-Alpine Vascular Vegetation Community

8. A Brief Statement Concerning the Type of Management Suggestions For the Area Including Uses Which Would be Compatible with the Values Represented by the Area

It is suggested that the landowner or a designated representative of the landowner may, at his/or her option, institute any or all of the following management suggestions:

- A. Baldpate Mountain should be maintained in a natural condition to perpetuate a suitable and proper habitat for arctic-alpine plant species. Management of the area should be carried out with the advice and approval of botanists knowledgeable with the species.
- B. Baldpate Mountain arctic-alpine communities should be monitored periodically to check on their condition.
- C. Trails should not be constructed through high quality areas.
- D. Motorized vehicles should be prohibited from the arctic-alpine vegetation areas.
- E. The building of structures on arctic-alpine vegetation areas should be discouraged.

9. Programs Which Directly Affect or are Particularly Relevant to the Use and Management of the Area

Baldpate Mountain currently is being re-zoned by the Land Use Regulation Commission.

10. A Brief Statement Concerning Publicity About the Area

Publicity about the critical area should be minimal so that visitors are not attracted to the area. An influx of visitors could pose a threat to the critical area, as well as impose an added burden on the landowner.

11. Date Registration Becomes Effective
December 16, 1977

September 6, 1977
Updated April 1979

Register of Critical Areas

The State Planning Office is charged with administering the Critical Areas Act. For further information, please contact the State Planning Office, Critical Areas Program, 184 State Street, Augusta, Maine, 04333, Telephone (207) 289-3155.

1. Name

Goose Eye Mountain Arctic-Alpine Vascular Vegetation Community

2. Critical Area Number 114

3. Location

- A. Oxford County
- B. Riley Township
- C. Minor Civil Division Code Number - 17817
- D. Latitude 44° 30' N" Longitude 71° 00' W"
- E. U.S.G.S. Quadrangle: Old Speck Mountain and Bethel, Maine 15' 1943 and 1940

4. Categories of Critical Areas Into Which the Area Falls

- A. Area of significance to the natural sciences
- B. Ecologically sensitive area
- C. Important habitat

5. Owner's Name and Address

State of Maine
Department of Conservation, Bureau of Public Lands
Augusta, Maine 04333

6. Boundaries and Size of the Area

The critical area includes that portion of Goose Eye Mountain above 1067 meters (3500 ft.). Arctic-alpine communities occur over an estimated area of 0.21 km² (0.08 mi.²).

7. A Description of the Area Including a Listing of its Unusual Qualities and the Reason(s) for its Inclusion on the Register

Goose Eye Mountain is located in the Mahoosic Range in western Oxford County, approximately 6.1 kilometers (4.1 miles) south of Mahoosic Notch. The Goose Eye massif is composed of dark grey slate, schist, and gneiss. The west and east peaks are rocky and rise to elevations of 1,176 meters (3,860 feet) and 1,156 meters (3,794 feet) respectively. Three sides of both peaks form steep slopes dominated by spruce-fir forests. Several alpine bogs are present on the tableland, and a large bog is located south of the col between the west and east peaks.

The Goose Eye Mountain range has a narrow treeless zone approximately 2 kilometers long (1.2 miles) that is vegetated by a variety of arctic-alpine plant communities. A 1976 survey identified 20 species of arctic-alpine distribution growing over an estimated area of 21 hectares (52.5 acres).

The major alpine plant community on Goose Eye Mountain is the dwarf shrub heath community. The community is dominated by Alpine Bilberry (Vaccinium uliginosum) and Low Sweet Blueberry (Vaccinium angustifolium). Dwarfed spruce and fir form a narrow krummholz ecotone between the open summit and the forest.

The vegetation on the tableland consists of a complex mosaic of arctic-alpine communities: alpine bog communities in wet depression; homogeneous Hare's Tail (Erophorum spissum) depressions; dwarf shrub heath communities, which are often interspersed with small spruce and fir trees; and fellfield and Diapensia (Diapensia lapponica) communities in dry, windswept areas. Baked-apple Berry (Rubus chaemaemorus), which is uncommon on Maine mountains, is found in two bogs on Goose Eye Mountain.

Goose Eye Mountain ranks second to Mt. Katahdin in the number of arctic-alpine plant species found on Maine mountains. At least 34 species of arctic-alpine distribution occur on Maine mountains, 20 of which are found on Goose Eye Mountain.

Arctic-alpine communities are uncommon in Maine, growing over an estimated 615 hectares (1,524 acres). Treeless mountains are unusual in Maine, and the occurrence of arctic-alpine vegetation is uncommon because of the limited high altitude habitat. Furthermore, many plant species of arctic origin reach their southern limit on Maine mountains. The Maine alpine environment is similar to that found in Labrador and Alaska and thus indicates floral affinities with arctic or sub-arctic environments. The adaptations that arctic-alpine plants have made to their harsh environment further interests botanists and naturalists.

Goose Eye Mountain has significant scenic and recreational values. The current increase in recreational activities on Maine mountains may threaten fragile arctic-alpine communities. It is important that these natural areas be identified and preserved. For further information, see the planning report, Arctic-Alpine Vascular Vegetation on Maine Mountains, by Diane May and Ronald Davis.

8. A Brief Statement Concerning the Type of Management Suggestions For the Area Including Uses Which Would be Compatible with the Values Represented by the Area

It is suggested that the landowner or a designated representative of the landowner may, at his/her option, institute any or all of the following management suggestions:

- A. Goose Eye Mountain should be maintained in a natural condition to perpetuate a suitable and proper habitat for arctic-alpine plant species.
- B. Management of the fragile area should be carried out with the advice and approval of botanists knowledgeable with the species.

Register of Critical Areas

Goose Eye Mountain Arctic-Alpine Vascular Vegetation Community

Page Three

- C. Trails should not be constructed through high quality areas.
- D. Motorized vehicles should be prohibited from the arctic-alpine vegetation areas.
- E. The building of structures on arctic-alpine vegetation areas should be discouraged.

9. Programs Which Directly Affect or are Particularly Relevant to the Use and Management of the Area

Goose Eye Mountain is in the process of being rezoned by the Land Use Regulation Commission.

10. A Brief Statement Concerning Publicity About the Area

Publicity about the critical area should be minimal so that visitors are not attracted to the area. An influx of visitors could pose a threat to the critical area, as well as impose an added burden on the landowner.

11. Date Registration Becomes Effective

December 16, 1977

Critical Areas Planning Reports Cited in this Report

1. Katahdin Arctic Butterfly, Oeneis polixenes katahdin. 1977. A.E. Brewer, 12 pages. Report No. 35
2. Alpine Tundra Vegetation on Maine Mountains. 1978. Diane E. Bay and Ronald B. Davis. 66 pages. Report No. 36.
3. Waterfalls in Maine. 1978. Thomas Brewer. 43 pages. Report No. 60.
4. Old Growth White Pine in Maine. 1978. Philip W. Conkling. 41 pages. Report No. 61.
5. Gorges in Maine. 1978. Thomas Brewer. 29 pages. Report No. 64.
6. Eskers in Maine. 1979. Harold W. Borns, Jr. 42 pages. Report No. 67.

The above planning reports may be obtained by writing:

Critical Areas Program
State Planning Office #38
189 State Street
Augusta, Maine 04333

UNIVERSITY OF SOUTHERN MAINE



3 1390 00451034 1

